ASL

Australian Society for Limnology Inc.

NEWSLETTER

Volume 41 #4, December 2003

Registered by Australia Post

Print Post Publication No. PP 381667/00125

ABN 54 606 483 226

ISSN 1037-2512

AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology (ASL) is an Australian-based scientific society whose focus is the study and management of inland waters. The ASL was established in 1961, and has a current membership of over 650 researchers, managers, engineers, teachers and tertiary level students from all states and territories. Members have a strong professional interest in inland aquatic issues, including the maintenance of biodiversity, the maintenance and/or restoration of water quality, and the wise use of aquatic resources. The Society also has a strong interest in fostering the scientific and intellectual development of tertiary students.

The Society includes members working in government agencies, tertiary institutions and many industries related to aquatic resources. Through their daily activities, members have contact with local communities and are in a sound position to interpret and advise on inland water issues. The Society has a substantial knowledge base, and has assumed a responsibility to ensure that this is available to those who manage inland waters.

Accordingly, the charter of the ASL is to further our understanding of Australia's inland waters and to promote their wise use and sustainable management. In this manner we will contribute to the continued existence of this valued resource and the maintenance and enhancement of the quality of life for all Australians. The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

EXECUTIVE OFFICERS 2003-2004

President
Assoc. Prof. Andrew Boulton
Ecosystem Management, The University of New England, Armidale NSW 2351
Ph: 02-6773 3760 Fax: 02-6773 2769, Email: aboulton@metz.une.edu.au

Vice-President
Dr Sabine Schreiber
Arthur Rylah Institute for Environmental Research
Department of Sustainability and Environment
PO Box 137, (123 Brown Street), Heidelberg VIC 3084
Ph: 03-9450 8642 Fax: 03-9450 8799, Email: Sabine.Schreiber@nre.vic.gov.au

Immediate Past President
Dr Jane Chambers
Environmental Science, Murdoch University, Murdoch WA 6150
Ph: 08-9360 2739, Fax: 08-9310 4997, Email: chambers@essun1.murdoch.edu.au

Secretary
Dr Richard Marchant
Museum Victoria, GPO Box 666E, Melbourne VIC 3001
Ph: 03-8341 7433, Fax: 03-8341 7750, Email: rmarch@museum.vic.gov.au

Treasurer/Membership Officer
Mrs Margaret Hart
PO Box 605, Mulgrave VIC 3170
Ph: 03-9560 4406, Fax: 03-9590 0550, Mobile: 0419 506 254,
Email: Margaret.Hart@sci.monash.edu.au

CONTENTS

CONTENTS	3
FROM ME	5
PRESIDENT'S REPORT	6
JOINT ASL/NZLS CONGRESS	7
THE COVETED 2003 ASL DOOR PRIZE REPORT	8
ASL PROFIT AND LOSS STATEMENT	11
ASL BALANCE SHEET	12
AN INVITATION TO SUBMIT A PAPER (BILL WILLIAMS MEMORIAL SYMP.)	14
15TH TAXONOMY AND ECOLOGY WORKSHOP 10 AND 11 FEB. 2004	18
AUSTRALIAN LIMNOLOGISITS MAKE BIG SPLASH	19
THE MORNING AFTER SmP	22
SCUTTLEBUTT, RUMOUR AND PRATTLE	24
POSTCARD FROM TIM DOEG	37
A BIT OF FUN	40
INFORMATION FROM AND FOR MEMBERS	42
FASTS	54
CONFERENCE CAPERS	54
FORTHCOMING CONFERENCES/WORKSHOPS	64
ASL VOLUNTEERS	67
ASL MEMBERSHIP FORM	71
ELECTRONIC NEWSLETTER APPLICATION FORM	73
REGIONAL EXECUTIVE MEMBERS 2003-2004	74

Material for publication in the **Volume 42 # 1 Issue** of the Newsletter should be sent to the Editor (Address on back page) by **Friday 26th February 2004.**

Volume 42 # 2 contributions are due on **Friday 28 May 2004.**

All articles should be forwarded, if possible, as unformatted text on a disk or via email.

ASL Home Page - http://www.asl.org.au/

This Newsletter is printed by Border Multi Print Pty Ltd Wodonga, packaged by Kalianna Pty Ltd and distributed by Australia Post.

Membership Information and contact details of the Regional Executive Members can be found at the back of this Newsletter.

Newsletter Editor

Ms Rhonda Sinclair, MDFRC, PO Box 921, Albury NSW 2640
Phone (02) 6058 2331, Fax (02) 6043 1626
Email: Rhonda.Sinclair@csiro.au

FROM ME

One of the advantages of being the Newsletter Editor of ASL is that you can write your few paragraphs just before sending it off to the printers.

Warrnambool was fun and I survived - I really enjoyed meeting for the first time, a lot of people whom I correspond with, as well as touching base with a lot of you I've known for years.

Enjoy the read of this edition, wherever you may be over the Holiday Break. I hope it gives you time to reflect on the past year and plan for 2004

Until next time,

Cheers

Rhonda

PRESIDENT'S REPORT

Greetings all,

I'm writing this before the Congress but perhaps you will all read this after the Congress, so you will know better than I can now say how good was the Congress and how enjoyable were all the interactions with friends and colleagues. And what a great AGM? That Doorprize is certainly a coveted award... And how absolutely excellent was the...

Not much to report on here that won't be covered in the President's Report from the AGM but suffice to say that the "Science meets Parliament" in Canberra was a great success (see article elsewhere) and many of our members reported positive outcomes. Water issues were firmly on the agenda and most politicians were keen to hear about the role that ASL could play in providing up-to-date science in a wide range of limnological issues. We are also going ahead with Jon Nevill's ASL Policy on the role and importance of representative inland aquatic protected areas - please take time to look at this policy and send Jon, Sabine or myself any comments.

Finally, I just want to say a huge thanks to all the Executive and Conference Organising Committee who have worked tirelessly to support our society. Without detracting from anyone's contribution, let me express special thanks to our newsletter editor Rhonda, to our webmaster Simon, and of course, the ASL conference presidio Belinda. It is a pleasure working with such a team.

Have a safe summer and Christmas break.

Cheers

Andrew

Australian Society for Limnology and
New Zealand Limnological Society Joint Congress

(42nd Annual ASL Congress)
1 - 5th December 2003

JOINT CONGRESS ASL/NZLS ~ WARRNAMBOOL 2003

Please Note that the Minutes of the 42nd AGM of the Australian Society for Limnology, held on 3 December 2003 at Warrnambool, will be included in the March 2004 edition of the ASL newsletter.

THE COVETED 2003 ASL DOOR PRIZE REPORT

Good evening and welcome to what might just be the 20th annual ASL Door Prize award. For new members of the Society, the Door Prize is awarded at each ASL Congress to the person, thing, species, event or act that makes the Congress memorable into the future. You may not be able to remember many of the talks from years past (..... sometimes, I can't even remember the talks from this morning), but you will always remember the winner of the Door Prize.

Nominations are gathered by a large and anonymous anarchical collective and assessed against strict rules.

Luckily, there is no actual physical prize, the door being last seen in a tip somewhere in South Australia. This is good as it saves the embarrassment of forgetting to bring the prize to the conference each year. Of course, that would never happen to the more prestigious awards such as the ASL medal, would it **Margaret Hart**?

Speaking of ASL Models, the sight of **Andrew Boulton** actually wearing shoes at the opening ceremony this year caused a great deal of confusion among the collective. This was either an evil, but flawed, clone of the real Andrew who had been inserted into the ASL matrix by a rival society for some unknown evil purpose, or the honour of appearing on Macca's radio show had gone to his head and he thought he was just a regular Aussie bloke.

Rhonda Sinclair promised never to talk to me again if she was nominated this year. As tempting an offer as this is ..... it is one that I will have to decline. The list of good nominees this year meant that, despite her best efforts, Rhonda couldn't be included in the nominations this year (Go on! Edit that out!)

And the nominees are:

As usual, **Microsoft Corporation** has been nominated in the "Technological Advances" section for this years new PowerPoint function, called the "Get on with it" function. With this function activated, the computer monitors the progress of the talk and at the first sign of any potentially time wasting hesitation, automatically moves forward to the next slide, while disabling the previous slide button. This wonderful function made sure that **Max Finlayson** and **Barry Hart** couldn't get off the track and were made to finish their talks in the allotted time. We have written to Microsoft and asked them to develop a **Jacob John** function, but not even Bill Gates could solve that one.

The "Innovations in Catering" nomination this year goes to the **crowd** (a bit reluctant to actually call them caterers) who brought you lunch on the first day. Lunch was made efficient by the brilliant combination of a sickly sweet pastry base filled with savoury toppings. In this way, you could eat both the main course and dessert at the same time - thus leaving more time for talks.

The "Is it me or does John Howard seem to be everywhere" nomination goes to **Mike Grace**. A few years ago, the nominee in this category got the gong for having his name on no less than 3 papers. Mike has taken this to new heights, being author or co-author on no less than 9 presentations this year.

The "Leadership in Community Consultation" nomination was clearly won by **Paul Boon**, for managing to include the most number of derogatory stereotypes in a single 12 minute presentation. Well, what would you expect from an academic. Academics are the sorts of people who spend as much time as they can in their ivory tower away from the real world and who think that things like measuring the amount of oxygen consumption in mud in the bottom of swamps is a valid way of passing the time.

The "we have to nominate the conference organizers each year, but can't let them win 'cause they have done a fantastic job on the conference" nomination is given this year for the attempt at crowd control. At previous ASL conferences, the organizers have tried to quell riotous and fun behaviour by appealing to out civilized human nature (that failed), by restricting the official supply of alcohol (that failed) and even by having the congress in the middle of Tasmania in the middle of winter assuming our metabolic rate would decline to levels of torpor (that failed). This year, the organizers tried ..... FEAR!

- If you smoke in your room, the fire alarm goes off and it will cost you $400.
- If you get up to any mischief with a can of deodorant (not sure just what they had in mind there), the fire alarm goes off and it will cost you $400.
- If you use candles or incense in one of those black magic late night orgy things, the fire alarm goes off and it will cost you $400.
- Even if you think about having fun, the fire alarm will know and go off and it will cost you $400.

By keeping us in a state of fear and anxiety, **Belinda and her co-organisers** hoped to keep us under control.

Well, if I was the conference organizers, I would be afraid. The first night, we had the ambulance service here. The second night we had the fire service here. Tonight (the night of the dinner), we go for the trifecta! ASL rules, KO.

Some miscellaneous nominations:

- To the **Dean of Science** at Deakin for not seeming to know that there was a bunch of limnologists hiding in his campus;
- For **Dave Crook** and his magic mushroom otolith pictures;
- For **Luke Shelley** ... for a lot of things actually ... he will do well in this award one day - but not this year.

This year, the Door Prize came down to two contenders, who were difficult to separate.

To be injured at an ASL Congress is taken as an occupational hazard. To be injured enough to get the paramedics with morphine is well beyond the call of duty. Unfortunately not good enough to will this year, **Dave Robinson** fills a commendable second place. And Dave, the Collective and, I think, all of ASL wish you the best for a full and speedy recovery.

But the winner this year is in a slightly different vein to the normal Door Prize. This year, the winner gets the award for a positive achievement. This year's award goes to a talk that was memorable in a good way.

It's not often at an ASL talk that you can't predict what is coming next. You can generally guess what you are going to see and hear. In an ecology talk, there will be a MDS plot where all the points seem to overlap, but the stats tells you the groups are significantly different. You will see a scatterplot with a cloud of points all over the place with a dodgy looking line of best fit that is always significant. And you know you will have to listen to 1 minute of introduction and 10 minutes justifying the statistical design, leaving only 1 minute for results and analysis.

It is rare not to know what is coming up. But this year's winner changed all that. Science from the edge, or edgy science, is a commodity that has been missing from ASL for quite a while. There hasn't been a lot in recent times that is so different as to make you sit up in the chair and take complete notice. During the winners talk this year, I glanced around the room and most of the audience had this look on their face, not far from kids at a Wiggles concert. An enthralled look, not knowing quite what was coming next, but eagerly waiting for it.

I am referring to **Jacqueline Giles** talk on "Aquatic musicians and their Hallelujah Chorus". What Jacqueline has done is make underwater recordings in a number of West Australian wetlands. From these recordings, she was able to isolate the sounds made by individual animals or species in the wetland. Not even knowing what the species was in most cases (giving them names associated with their sounds), she played a series of magical sounds from the wetlands.

This has real potential. A new non-destructive sampling method. Simply record the wetland or stream of river and a sound analysis will tell you what is there. One day we might not talk about mesh size, but the frequency range and response of our sampling gear. It will open up a whole new world for taxonomists as they try to come up with names of species based on their sound - *Chironomus sexpistoli* for a fast aggressive sounding species; *Smith morrisseyi* for a slow boring species; *Johnny farnhami, Berosus beatlenopsis* ..... you get the idea.

I've never heard the noise that a corixid makes, or the rhythmic drumming of a long-necked tortoise. For that memorable experience, I am pleased to award the 2003 ASL Door Prize to **Jacqueline Giles.**

The one, the only.....

Tim Doeg

AUSTRALIAN SOCIETY FOR LIMNOLOGY INC

REG. NO. A20309K ABN 54 606 483 226

PROFIT & LOSS STATEMENT FOR THE 18 MONTHS YEAR ENDED 30 JUNE 2003

	30-Jun-03 18 months	31-Dec-01 12 months
INCOME		
Bank Interest	$5,969	$2,305
Conference Receipts	62,061	60,041
Donation	-	35,000
Wetland Forum	-	1,320
Subscriptions - Full Members	19,030	15,050
- Students	1,540	1,558
- Institutions	1,493	369
-10 Year	1,050	1,745
Sundry Income	176	50
TOTAL INCOME	$91,320	$117,438
EXPENSES		
Audit & Accounting Fees	1,363	1,111
ASL Medal	1,371	-
Bank Charges	2,154	2,183
Conference		
- Student Travel Award	1,600	1,000
- Student Prize	300	300
- Venue, Travel, etc	51,380	50,075
Depreciation	1,075	1,438
FASTS - Subscriptions & Meetings	2,189	2,908
Honoraria - Treasurer	2,000	1,500
Miscellaneous Expenses	78	52
Newsletter	13,573	9,695
Publications / Brochures	3,343	1,045
Stationery, Printing, Postage, etc	2,791	1,262
Telephone	1,607	1,231
Qld / Vic Chapter	-	100
Wetland Forum	-	2,770
TOTAL EXPENSES	$84,823	$76,670
NET SURPLUS FOR PERIOD	$6,497	$40,768
RETAINED SURPLUS AT START OF PERIOD	108,650	67,882
RETAINED SURPLUS AT END OF PERIOD	$115,147	$108,650

AUSTRALIAN SOCIETY FOR LIMNOLOGY INC

REG. NO. A20309K ABN 54 606 483 226

BALANCE SHEET AS AT 30 JUNE 2003

	30-Jun-03	31-Dec-01
SOCIETY FUNDS		
Retained Surplus	$115,147	$108,650
Represented by:		
CURRENT ASSETS		
Nat Aust Bank - Cheque Account	24,922	28,566
Nat Aust Bank - Deposit at Call	-	34,914
Nat Aust Bank - Deposit at Call	51,769	10,192
Nat Aust Bank - Deposit at Call	37,463	35,000
TOTAL CURRENT ASSETS	114,154	108,672
NON-CURRENT ASSETS		
Office Equipment - at Cost	5,426	5,426
Less Provision for Depreciation	(4,434)	(3,358)
TOTAL NON-CURRENT ASSETS	993	2,068
TOTAL ASSETS	$115,147	$110,740
NON CURRENT LIABILITIES		
Creditor - FASTS	-	2,090
NET ASSETS	$115,147	$108,650

NOTES TO ACCOUNTS

Whilst the accounts have been prepared on a cash accounting basis accrual adjustments have been made for subscriptions payable to FASTS [2001].

AUSTRALIAN SOCIETY FOR LIMNOLOGY INC

REG No. A20309K ABN 54 606 483 226

STATEMENT BY MEMBERS OF THE COMMITEE

The committee have determined that the association is not a reporting entity.

In the opinion of the committee the financial report:

1. Presents fairly the financial position of the Australian Society for Limnology Inc. as at 30 June 2003 and its performance for the 18 months ended on that date.

2. At the date of this statement, there are reasonable grounds to believe that the Australian Society for Limnology Inc will be able to pay its debts as and when they fall due.

This statement is made in accordance with a resolution of the Committee and is signed for and on behalf of the Committee by:

Andrew Boulton
President
Dated this First day of December 2003

Margaret Hart
Treasurer

~ ~ ~ ~ ~ ~ ~ ~

AUSTRALIAN SOCIETY FOR LIMNOLOGY INC

INDEPENDENT AUDIT REPORT TO THE MEMBERS OF THE AUSTRALIAN SOCIETY FOR LIMNOLOGY

We have audited the financial report, being a special purpose financial report comprising the Statement by Members of the Committee, Profit and Loss Statement and Balance Sheet of the Australian Society for Limnology Inc for the 18 months ended 30 June 2003. The committee is responsible for the financial report and has determined that the accounting policies used are appropriate to meet the needs of the Associations Incorporation Act [Victoria] and the needs of the members. We have conducted an independent audit of this financial report in order to express an opinion on it to the members. No opinion is expressed as to whether the accounting policies used are appropriate to the needs of the members.

The financial report has been prepared for the purpose of fulfilling the requirements of the Associations Incorporation Act [Victoria]. We disclaim any assumption of responsibility for any reliance on this report or on the financial report to which it relates to any person other than the members, or for any purpose other than that for which it was prepared.

Our audit has been conducted in accordance with Australian Auditing Standards. Our procedures include examination, on a test basis, of evidence supporting the amounts and other disclosures in the financial report and the evaluation of significant accounting estimates. These procedures have been undertaken to form an opinion whether, in all material aspects, the financial report is presented fairly.

The audit opinion expressed in this report has been formed on the above basis. Audit Opinion: In our opinion, the financial report presents fairly the financial position of the Australian Society for Limnology Inc. as at 30 June 2003 and the results of its operations for the 18 months then ended.

COSTER GALGUT PTY LTD ABN 66 005 054 866

LINDSAY C COSTER FCA
Chartered Accountant

1 / 12 /2003

Publication from The Bill Williams Memorial Symposium Ecology and Management of Australia's Water Resources in the Next Two Decades: 2020 Vision or Blind Faith.

An Invitation to Submit a Paper

As announced at the AGM of ASL at Warrnambool, arrangements have been made to publish papers presented at the Bill Williams Memorial Symposium along with other invited papers in the theme of Ecology and Management of Australia's Water Resources. The publication will include papers submitted by the nine presenters at the Symposium listed below. **This is an invitation to ASL members and colleagues of Bill Williams to submit further papers for publication in the Memorial Symposium publication.**

We propose that the Symposium and additional papers be published in a Special Volume of *Hydrobiologia* dedicated to Bill Williams. We expect to be able to include about 20 papers in the publication. All papers will need to be related to the broad theme of the Bill Williams Memorial Symposium, Ecology and Management of Water Resources. The Special Volume will be edited by Patrick De Deckker, Andrew Boulton and Michael Geddes, with assistance from others we hope to involve as editors. Submitted papers will be refereed in the manner of the journal *Hydrobiologia* and will need to meet the academic and editorial standards of the journal.

The Special Volume needs to appear quite soon and so we are proposing the following timelines for papers submitted to the Bill Williams Memorial Symposium Special Volume.

1. **Expressions of Interest** in submitting a paper, including author(s), title and a brief summary pointing out the scope of the paper and its relationship to the theme of Ecology and Management of Water Resources to be submitted by 2nd **February 2004**. Please submit this expression of interest to Patrick DeDeckker (patrick.dedeckker@anu.edu.au). For further information talk to Patrick, Andrew Boulton or Mike Geddes. We will consider the expressions of interest and invite authors to proceed to submit a full paper.
2. **Full Papers** to be submitted both hard copy and electronically to Patrick De Deckker by 1st **April 2004**. These papers will be refereed under the direction of the editors and *Hydrobiologia*.
3. From April to August manuscripts will be refereed, returned to authors for amendment where necessary and the final and accepted manuscripts sent to *Hydrobiologia* by August 2004.
4. Publication of the Special Volume end 2004 or early 2005.

So please consider whether you would like to submit a paper for consideration by the editors and *Hydrobiologia*, and send your expressions of interest to Patrick (not directly to *Hydrobiologia*).

Patrick De Deckker, Andrew Boulton and Mike Geddes, 12 December 2003.

Bill Williams Memorial Symposium. Ecology and Management of Australia's Water Resources in the Next Two Decades: 2020 Vision or Blind Faith?

Rivers and Streams Chair Andrew Boulton

Dr Sam Lake, Monash University, Vic.
Perturbation, restoration and the quest for ecological sustainability in streams.

Dr Fran Sheldon, Griffith University, Qld
Variability! It is what makes them unique but in the face of management may be the "virus" that destroys our arid ecosystems.

Wetlands Chair George Ganf

Dr Max Finlayson, National Centre for Tropical Wetland Research, NT
A fable from northern Australia: adaptive management of the floodplain wetlands?

Dr Stuart Halse, Department of Conservation and Land Management, WA.
Putting science into wetland management: lessons from recovery catchments in saline landscapes.

Dr Margaret Brock, Department of Land and Water Conservation, NSW
Biodiversity conservation and the management of processes in aquatic ecosystems: a 2020 vision.

Salinization and Groundwater Chair Patrick De Deckker

Dr Michele Barson, Bureau of Rural Sciences, ACT
Salinity: new perspectives on an old problem.

Dr Phil Macumber, University of Melbourne
Ecology and Management of Australia's Water Resources in the Next Two Decades: 2020 Vision or Blind Faith? Clearly Blind Faith - A Victorian Groundwater Perspective.

River Murray Chair Mike Geddes

Dr Terry Hillman, former Director, MDFRC and La Trobe University Vic
The Murray: What do we want? When do we want it?

Mr Don Blackmore, Murray Darling Basin Commission, ACT
Re-balancing the River Murray

Congratulations

Congratulations to **Dr John Quinn**, NIWA, Hamilton on his award of the New Zealand Science & Technology Bronze Medal for his significant contribution to river ecosystem research.

CSIRO Publishing wins at the Whitely Awards. CSIRO Publishing is pleased to announce that its bestselling title *The Waterbug Book* by John Gooderham and Edward Tsyrlin has won the 2003 Whitley Medal. This is in addition to the Eureka Science Book Prize. Also presented at the Whitley Awards ceremony was a Certificate for Commendation for the Best Zoological Series for the Zoological Catalogue of Australia Series.

Protected Areas for Managing Rivers, Wetlands and Aquifers

The policy background, role and importance of protected areas for Australian inland aquatic ecosystems

Jon Nevill and Ngaire Phillips
Editors for the ASL Representative Freshwater Reserves Working Group

OVERVIEW

In September 2000, the Australian Society for Limnology (ASL) established a working group to examine the issue of representative reserves in inland aquatic environments. This monograph is the product of that investigation, and examines government commitments and programs in the light of information related to the use of the "protected area" concept in inland waters.

According to the international Convention on Biodiversity 1992, the conservation of aquatic biodiversity involves the protection of representative examples of all major ecosystem types, coupled with the sympathetic management of ecosystems outside these protected areas. Although the Australian government, and all eight Australian States and Territories are committed to this principle, only Victoria, Tasmania and the Australian Capital Territory have funded specific programs aimed at meeting this commitment. Although all jurisdictions have established terrestrial reserves (Ramsar sites, for example) which protect aquatic ecosystems, the degree to which such reserves protect representative ecosystems has not been assessed. The paper examines the policy background, history, role and importance of protected areas for the conservation of inland aquatic ecosystems in Australia.

The purpose of the monograph is to promote discussion of all issues surrounding the development of freshwater protected areas, including their limitations. The importance of representative protected areas proves a focus for the document.

Its expected audience is primarily natural resource managers at various levels, policy makers, and scientists. It is structured to allow the reader to find specific information on a particular issue quickly, without having to peruse the entire paper. The degree of detailed technical information provided establishes the paper as a sourcebook as well as a discussion paper.

The book comprises 11 chapters making up roughly 100 pages, with a further 13 appendices adding another 100 pages. A separate bibliography is provided through an internet link. The document will be published in hard copy if the ASL can obtain sponsorship from a philanthropic source. It is currently available through: http://www.asl.org.au/temp/FW_ProtectedArea_SourceBook_v099.doc

The term 'reserve' is used in the book to encompass the first four of the IUCN's protected area categories.

The bulk of the core text is devoted to chapters discussing:

- the development of protected areas in terrestrial and marine environments;
- threats to the freshwater environment, and the role of freshwater protected areas;
- the development of national, State and regional inventories of freshwater ecosystems;
- national and State programs for the protection of aquatic environments;
- a hypothetical framework for protecting rivers of high conservation value;
- difficulties faced by aquatic reserves which are not faced by terrestrial reserves;
- conclusions and recommendations.

The book makes recommendations relating to the development of comprehensive inventories of inland aquatic ecosystems in all Australian jurisdictions, and also recommends the development of a national framework for the establishment of aquatic protected areas.

A recommendation is made that the ASL develop a short formal policy document on the use of protected areas in inland aquatic ecosystems.

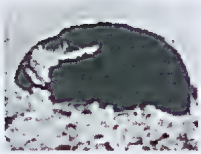
Appendices examine national and State freshwater conservation programs in more detail, as well as providing technical information on matters relating to international agreements, establishing site value, classification methods and extracts from key documents.

Jon Nevill [jnevill@netspace.net.au]

15th TAXONOMY and ECOLOGY WORKSHOP

Tuesday 10th and Wednesday 11th February 2004

Mussels (Bivalvia), Fairy Shrimps (Anostraca),
Caddis Flies (Trichoptera),
Lacewings & Spongeflies (Neuroptera),
Dragonflies & Damselflies (Odonata) & Fish larvae



SPEAKERS

Keith Walker, Brian Timms, Tim New, John Dean,
Ros St Clair, Gunther Theischinger, John Hawking,
Paul Humphries and Luciano Serafini

VENUE

Lake Hume Resort, via Albury

ENQUIRES: Further information can be obtained from The Murray Darling Freshwater Research Centre Reception Ph: (02) 6058 2300 or email: enquiries@alb.clw.csiro.au or John Hawking [John.Hawking@csiro.au]

Australian limnologists make big splash at "Science Meets Parliament"

This year, ASL was represented by some twenty-seven aquatic ecologists, managers, students and limnologists attending the annual 'Science meets Parliament', organized by the Federation of Australian Scientific and Technological Societies (FASTS). 'Science meets Parliament' (SmP) is an increasingly popular event on the political calendar, and with politicians ranking water as the top issue that they wanted to discuss with the scientists, our members were in great demand. The event commenced with a day-long workshop on skills and approaches to successfully lobbying parliamentarians, hearing from experienced campaigners and enjoying a lunch-time debate at the National Press Club between Science Minister Peter McGauran MP and shadow Minister Senator Kim Carr. There was also a session explaining the genesis and outcomes of the Wentworth Group before the scientists adjourned for a cocktail reception in the Members' Hall in Parliament House. This was an excellent opportunity to network with MPs in a favourable frame of mind, and it was striking how interested many of them were in water issues in their electorate (carp, salinity, drought, the cost of water, blue-green algae) once we steered conversation that way.

The following day was taken up with 1-hour meetings between a group of up to three scientists meeting and an individual parliamentarian. ASL also produced a single page flyer that outlined the structure and goals of the society, and how it could specifically contribute to parliamentary debate about water by acting as a clearing house for scientific comment, drawing attention to our policy statements. Personally, I found it an interesting experience and was impressed by how alert to water issues were both the parliamentarians with whom I spoke. They were generally aware of tertiary institutions and scientific groups in or near their electorate that were dealing with water issues but neither had heard of ASL and were interested in the potential of such a society of experts. A collection of quotes and experiences from some of our members appears below. I was going to try and edit these but they are so eloquent, diverse in content, and include such interesting ideas for future discussion that I have reproduced them in full:

****

The three politicians I had discussions with (one at the evening get-together) all have links to Tasmania. Although their water interests are only indirect, there is the opportunity to follow up the connections - which I will do later this week or next. I think the real benefit might come if these guys feel they can contact me for the occasional piece of advice or information. The strong representation of ASL at the meetings is certainly a good sign of a membership interested in getting a message to decision-makers. **Jon Nevill**

I had two successful meetings with MPs. In both cases I was impressed with the MP's broad range of knowledge and issues. In both cases, the MPs led the early stages of the conversation and had clearly read the scientists' biographies before the meeting. This derailed the carefully constructed introductory tactics that my partner scientists and I had contrived before the meeting! My first meeting was a full hour with Jann McFarlane (ALP, Stirling WA). Of particular interest to ASL would be her desire to provide a scientifically sound foundation for future Labour Party water policies.

I seem to recall some bemusement at the fact that water policy fell under the domain of resource policy rather than social policy. Jann wasn't shy about gender-stereotyping her fellow parliamentarians. Girls are interested in social policy issues. Boys obsess about the latest intelligence leaks and news from Iraq.

My second meeting was with the Liberal Party's Barry Haase, the member for Kalgoorlie, Australia's largest electorate. Mr Haase surprised me when he asked for a quick rundown on how destratification of reservoirs worked. He gave the example of Harding Dam in his electorate. He couldn't have asked a better question for me! His main interests seemto lie in development issues and the role of native title in stifling development. I chose not to offer a view on the native title issue. Barry also had an impressive (to my layman's view) knowledge of mineral prospecting technologies. Personally, I will undertake some follow up, especially with McFarlane as her request for water resource policy foundation material seems quite promising.

Brad Sherman

Overall, Science meets Parliament is a useful means to network with both parliamentarians and fellow scientists. In both years that I have attended (2001, 2003) I have gone away with new contacts for potential future research collaboration (resulted in a grant after the 2001 meeting). Each year has also led to a significant understanding of the parliamentary environment and day-to-day workings 'behind the scene'. Each year has also provided an opportunity for significant meetings with federal parliamentarians. However, as someone who had attended previously, I felt that the first day was mostly of limited value, with its concentration on how to deal with politicians (and frequent drifts into discussions on media skills). There also seemed to be too many participants - the National Press Club was overcrowded and I'd suggest a cap of about 200 scientists in subsequent years OR switching to an alternative venue. Nevertheless, the reception in Parliament House that night was a useful forum for meeting parliamentarians (and other scientists).

The individual meetings were a bit watered down by having 3 scientists present this year, each trying to put his/her angle on the conversation. For my part, the (only) meeting went well, but it would probably have been better with only 2 scientists. I have never been paired up with one of my own local members in either 2001 or 2003, though I have instigated unscheduled meetings while in Canberra to overcome this. From the society's perspective, ASL would do well to have a resource to make advance contact with local members well ahead of the SmP days, to foster both society objectives and encourage additional meetings in order to establish or maintain a relationship with local representatives. It would be useful to have a number of metal ASL logo badges made up to allow member to be readily identified. I caught up with someone from the National Farmer's Federation on the way home from SmP, and he indicated that he had been meeting with Minister Truss as they do on a regular informal basis. It occurred to me that if water is of such widespread interest to federal parliamentarians (and the broader Australian community), then ASL should undoubtedly be fostering a similar level of relationship. A possibility might be to attempt a SmP dinner between ASL members and key government parliamentarians on the Wednesday night (this year there was a FASTS dinner at an additional expense) or after the cocktail reception on the first night.

Glenn Wilson

I'm afraid my SmP experience wasn't as positive as yours. I suspect that I just scored a bad draw of appointments. The first was Ron Boswell (Qld Nat senator) who happened to stumble into his office just as we were about to give up on him. The look of horror on his face at finding us there waiting for him (he had completely forgotten about our appointment) set the scene for a fairly uncomfortable half-hour, in which he slowly came to terms with the realization that we weren't a bunch of lobbyists who were wanting to bite him for something. I guess we did raise his awareness of the parlous state of career prospects for scientists and the related need for getting more kids into science...and we did make him aware of a couple of scientific institutions in the areas he often visits (the DPI Hermitage laboratories in Warwick and the CRCFE Goondiwindi Lab), with the prospect of him dropping in for a visit. But all in all I didn't feel like we made too much of difference with that one.

The second pollie was a bit more switched on, and it went OK. He is an inner Sydney MHR and I'll make a point of sending him info. on our urban work, but in truth he didn't seem all that interested. I was quite surprised that both pollies put Water down as the big issue that they wanted to discuss...but once we were in there, neither of them had any interest in the topic. My attempts to bring it up didn't raise much interest... I don't think this sad tale is a stand-alone newsletter item, but I thought I should let you know that my experience was less than wonderful.

Chris Walsh

My meeting with Annette Ellis member for Canberra was a very positive experience. We talked about water and bushfires. She is dealing with a lot of scientific material regarding the local bushfire enquiry, and the terms of reference for the COAG bushfire inquiry had just crossed her desk. She was very responsive to ideas on how best to use scientific expertise to help make informed decisions. She agreed that the current 'adversarial' model that is often used, where scientists are so often pitted one against the other, is not such a good one. She suggested a return visit if we would like to talk more regarding these issues.

Sue Nichols

Meeting with John Forrest MP for the Mallee was a challenge: he was quietly confident that he was well versed in the science of water issues in his electorate, but was off the mark in terms of his understanding of salinity, with a comment along the lines of (if the Murray wasn't so saline, how else would the sea remain salty - and I don't think he was joking). I hope he was able to benefit from our explanations of dryland salinity. He wasn't particularly keen on the pile of booklets and leaflets we left behind, so maybe there is a more appropriate way of targeting his office with sensible and relevant science on the issues of salinity, environmental flows, and wetland management.

Claire Sellens

Many thanks for all the folks who flew the ASL and watery flags, and thanks for the honest and useful feedback above. I think we need to keep SmP on our agenda and it would be good to have someone in ASL who could specifically be our 'SmP' representative and keep an eye on this important portfolio. Any takers? Also, if I have missed anyone's comments here, please let me know. Also see Frederick's report on 'the morning after' - we are grateful that he was able to represent the society at the FASTS meeting afterwards and there are some issues to be reviewed at the AGM.

Andrew Boulton

The morning after.....Science meets Parliament

FASTS AGM and Council meeting: a view from the ASL rep.

Just like last year the FASTS AGM, Council and Board meetings occurred the day after Science meets Parliament. Only the first two meetings were open to Council members, with Council members not having voting rights at the AGM. The AGM agenda contained a number of reports, election of members of the executive committee members of the Federation and other procedural matters. The full report on this, provided by FASTS will appear elsewhere in the newsletter. Regrettably, Toss Gascoigne has decided to resign from the position of Executive Director to take up a position elsewhere, while Chris Fell will hand the baton of President to Snow Barlow. The input of both cannot be overstated and their contributions to the rise and rise of FASTS will be sorely missed.

This year ASL was well represented at Science meets Parliament, and I took part in it myself for the first time and thought it was a fascinating two days. At the FASTS Council meeting it was recognised that this year's SmP was an outstanding success, with overall 260 scientists and 160 parliamentarians participating. Many 'young' scientists were part of the delegation, and had a chance to meet 'young' parliamentarians ('young' being defined as <40yo) during the breakfast at Parliament House. The theme idea raised for a breakfast in Parliament next year was "Women Scientists meeting Women Parliamentarians".

The sheer amount of interest in SmP has resulted in the pairing of three scientists with one parliamentarian for a meeting this year, so that it was still possible for each scientist to have two appointments during the day. A group of three appeared workable and no negative feedback was received on this, but it was felt that this was the maximum number of people to meet a parliamentarian without it becoming too intimidating or time inefficient for each of the participants. If the interest in SmP will remain high, new strategies may need to be found to cope with the number of participants. As a first step, an analysis will be carried out on the breakdown of scientists representing their organisations and disciplines to ensure a fair and equitable participation rate and the opportunity to meet two parliamentarians during the day can be maintained. Anecdotal evidence has it that some people who were 'stranded' without appointments as a result of last minute changes went 'doorknocking' at the offices of parliamentarians: the number of collected cards as a result of unscheduled visits was overwhelming! Speeches by Minister McGauran and his opposition counterpart were greeted with a mixed response, and it was suggested that perhaps next time a prize would be provided for the best speech: an equivalent of the ASL famous Door Prize?

After the feedback on SmP, the Science Fellows proposal was discussed. In the US, 35 scientists have been employed as year long fellows in Congress for the last 30 years, and FASTS has been working to implement a similar system here. Parliament has agreed to this in principle, and now in the next stage funding for it will need to be found. Initially one position will be funded, but it would be desirable to increase this up to four positions, as has occurred in Switzerland, which has a similar sized parliament compared to Australia.

The debate on the agenda for FASTS' future was opened by Snow Barlow who distributed a discussion paper listing some of the main issues: higher education and research sector reform and funding injection; the resourcing of teaching science and mathematics; recruitment of science, engineering and technology personnel, the professional societies as keepers and guardians of their disciplines. The actual debate which took up most of the meeting touched on a wide range of issues, and since a report will be produced by FASTS I will not attempt to cover this here.

During the Council meeting Judy Mousley distributed "Women in Science: An Agenda for Action" which is the outline of a report she is putting together.

Main headings of the report are:

- Areas of shortage and imbalance
- Discipline specific situations
- Employment situations
- Science education contexts
- Examples of affirmative action
- An agenda for action

She is collecting information on Women in Science: the state of play, recommendations, etc and would love to hear from anyone who can assist: judym@deakin.edu.au

It is encouraging to see that ASL has participated in the FASTS Council meeting for the second year, and I am hoping that this attempt to a greater engagement with FASTS can be consolidated into the future. With a new FASTS President, the society has asked how Council members, like ASL, can play a more active role. I encourage everyone to think about this. How can FASTS better represent our own interests? How can we contribute, and how can it assist the issues of concern to ASL?

Frederick Bouckaert

SCUTTLEBUTT, RUMOUR AND PRATTLE

FRESHWATER ECOLOGY, ARTHUR RYLAH INSTITUTE FOR ENVIRONMENTAL RESEARCH, DEPARTMENT OF SUSTAINABILITY AND ENVIRONMENT

Either we're hitting the silly season or it's hitting us so here goes....

Sabine Schreiber is being kept very busy helping organise the ASL Congress in Warrnambool as well as tackling a number of intensive projects. She is also working with **Charles Todd** on a CRCFE project predicting the spread of aquatic invasive biota.

Phil Papas and **Sabine** have recently been roaming regional Victoria presenting information to land and waterway managers on two new National Action Plan for Water Quality and Salinity (NAP) projects: 'Developing a wetland assessment method' and 'Functional Relationships between Biodiversity and Salinity in Wetland Ecosystems. The projects have provided an opportunity for cross-pollination between states with representatives from NSW and WA involved. Sabine is starring as project leader for the functional relationships in wetlands project, with co-stars **Keely Ough** as a flora ecologist, **Belinda Cant** as a freshwater ecologist and Charles controlling the ecological modelling joystick!

Unfortunately Sabine may be receiving fewer Christmas cards this year due to being struck off lists for scheduling certain freshwater staff to present on the very last day of the Congress (we stupidly thought we would have the inside advantage!). Meanwhile, on a more domestic front, she is attempting to give away a rooster that thinks he is a duck (imitates the duck by sitting on the duck's eggs). To add to that, the duck is madly in love with the dog (preening tendencies etc.). We're confused!

The ARI website (*www.dse.vic.gov.au/ari*) has recently been updated with assistance from Phil, who doubles as the ARI graphic designer from time to time. Phil has also assisted in the development of a new ARI brochure (that can be accessed from the website) and information posters for the Institute that will be distributed at the International Wildlife Congress in New Zealand in December.

Shanaugh McKay and Michael Nicol have just returned from sampling in south-east NSW. Flows in the rivers were extremely low, due to the lack of decent rainfall since May. Sampling in the Wyndham pub continued as per usual (Di missed out this year!). The targeted water project is rolling along with **Shan** in the process of selecting appropriate sites to set up water diversions to investigate the effects of water extraction. **Ruth Lennie** has been ably assisting the bug group with fieldwork by standing in (I mean that quite literally) for **Di Crowther** who has been office bound (and going completely mad) due to an ankle that bent the wrong way in August. Thankfully, she is recovering well.

Freshwater Ecology would like to welcome **Sara Johnson** to the group. Sara recently commenced as the new Waterwatch state science coordinator for Victoria. **Sara** has previously worked as a waterways support officer and an environmental officer for the EPA (QLD) working on state level water quality projects under the National Action Plan.

Alison King is currently out at Barmah sampling larval fish, swatting mozzies and avoiding getting bogged. The survey is part of a project which aims to assess the impact of environmental flow management in the Barmah-Millewa floodplain on fish breeding and recruitment. The project will aid in optimising environmental watering strategies for fish populations in B-M and other floodplain wetlands that may be undertaken as part of the MDBC's Living Murray process and Native Fish Strategy.

David Crook is currently undertaking otolith chemical analyses to determine the migration histories and recruitment sources of fish in coastal and inland rivers. Has also just begun a collaborative project with Adelaide University and NSW Fisheries funded by the ARC Linkage Program using chemical marking of fish otoliths to allow identification of fish from hatcheries. **Wayne Koster** has been working with **David** surveying adult and larval populations of fish species in the lower Goulburn River for the otolith study. He has also been working with **Phil** and Ecology Australia to assess the ecological outcomes of implementing the Wimmera Mallee Pipeline.

Monitoring for the Seven Creeks Rehabilitation project continues with **Steve Saddlier** at the helm. **Steve** has just returned from Seven Creeks where he has been taking physical measurements, including bank profiles, to determine whether the new instream structures are creating the desired effect (i.e. scour holes and refuge areas) for the critically endangered trout cod. He has also been busy finishing action statements for silver perch and catfish and is currently working on national recovery plans for variegated pygmy perch, Yarra pygmy perch and dwarf galaxias.

Ivor Stuart and **Tim O'Brien** have been busy working on the Murray fishways project. Ivor recently returned from Mildura where he has been busy setting up an automated pit tag reader on new Lock 8 fishway, which was officially opened on the 11 November. Ivor has now reached the second stage of the carp separation technology (carp cages to the layperson!) at Torrumbarry weir. The study will be finalised in April 2004 leading to the instalment of carp cages across weirs in the Murray-Darling Basin.

Matthew Jones is currently working on the effects of environmental flow allocations on lateral movements of native fish. The project is in the initial stages and has involved inserting radio transmitters in Murray cod and golden perch and setting up logging towers to determine how fish move on and off floodplain habitats using radio telemetry. The project is being undertaken at Barmah but results will be applicable to other floodplain habitats within the MDB.

Tom Ryan has been undertaking a fisheries funded project situated at Lake Nagambie investigating the survival of golden perch and Murray cod using radio telemetry. The overall aim is to improve native fish stocks in the lake.

Jason Lieshcke has recently undertaken fish surveys in the new wetlands at Hazelwood Power Station in the Latrobe valley. International Power at Hazelwood aims to establish high biodiversity values in the newly created wetlands. While carp gudgeon and high numbers of pygmy perch were found during surveys, numbers of carp were overwhelming. The recommendation was made to employ a professional fisherman to undertake eradication of the larger carp in the wetlands. Meanwhile a savvy Gippsland business was happy to begin this job and managed to harvest 850 kg of saleable carp! **Jason** is also working with **Simon Nicol** on the trout cod recovery plans and will soon survey major restocking sites in north east Victoria for trout cod.

Anyhoo - a very happy silly season to all. Catch ya' on the other side of the reindeer.

From

Di Crowther

CENTRE FOR RIVERINE LANDSCAPES, GRIFFITH UNIVERSITY, BRISBANE

Brad Pusey, Mark Kennard and **Angela Arthington** are nearing completion of their book manuscript on the "ecology of fresh water fishes of north-eastern Australia." The manuscript is due to go to publishers in mid January and will appear in all good book stores near you mid 2004. This book will represent the first truly detailed book of freshwater fish ecology in Australia and will be a must read.

Wade Hadwen is organising a special session on the ecology, hydrology and geomorphology of Intermittently Closed and Open Lakes and Lagoons (ICOLLs) at next year's combined Estuarine and Coastal Sciences Association (ECSA) / Estuarine Research Federation (ERF) meeting in Ballina. If you are interested in hearing more about this special session, contact **Wade** (w.hadwen@griffith.edu.au) or visit the conference website www.scu.edu.au/ecsa37erf2004conference

CRL hosted a visit by **Professor Alan Hildrew** (Queen Mary University of London). CRL staff and students also benefited from individual discussions with Alan about their current research.

From

Stephen (Harry) Balcombe

SINCLAIR KNIGHT MERZ, MELBOURNE

The last few months have been a busy time for the ecologists at SKM. We are currently undertaking a large wetland monitoring project in South Australia in partnership with AWQC, MDFRC (Lower Basin Laboratory), Ecological Associates and REM. This is keeping **Michael Shirley** on his toes and has seen most of the ecologists in the field for the past few weeks monitoring fish, macroinvertebrates, birds, frogs, vegetation, water quality and groundwater.

In the meantime, the rest of us have been busy back in the office. **Simon Treadwell** and **Peter Sandercock** have been traipsing around the Glenelg and Wannon Rivers assessing instream habitat condition. Simon has also been busy examining options for improved flooding on Wallpolla Island and is taking a deep breath after involvement in the Living Murray environmental flows project.

Kylie Swingler has recently compiled a manual of water quality best practice management guidelines for the Goulburn Broken CMA, and by the time this goes to press will be relaxing on her honeymoon with Paulo Lay, congratulations to you both.

Andrew Sharpe has completed a review of environmental flow monitoring programs in conjunction with the CRCFE and ARI, he has also been working with **Melinda Holt** on undertaking risk assessments and development of programs to monitor impacts associated with discharge of treated sewerage effluent.

Michael Lake is drowning his sorrows after Australia beat New Zealand in the rugby world cup semi-final. He is also assessing water regime options for several wetlands on Lindsay and Wallpolla Islands and is continuing with fish surveys in Penrith Lakes.

In the past couple months we have welcomed back **Kylie Lewin** and **Emma Connell** from maternity leave. Neither can decide whether looking after 1 year olds at home or going to work for a break is the preferred option.

From

Simon Treadwell

DEPARTMENT OF ENVIRONMENT AND CONSERVATION (NSW)

A new environmental department in NSW?

Well, a number of separate agencies within the environment portfolio in NSW were consolidated in September this year to create a new Department of Environment and Conservation (DEC).

DEC incorporate the staff of the Environment Protection Authority, National Parks and Wildlife Service, Royal Botanic Gardens and Resource NSW, and create strong linkages with the Sydney Catchment Authority. The focus of this reform is to improve service delivery and provide certainty to the community, especially the conservation movement, farmers and industry.
The current Director General of the EPA, Lisa Corbyn, has become the Director General of the new agency.
So now you know who we are!

From

Yoshi Kobayashi

CENTRE FOR NATURAL RESOURCES IN THE DEPARTMENT OF INFRASTRUCTURE, PLANNING AND NATURAL RESOURCES

The Centre for Natural Resources still has the same name following major changes in the NSW State government structure. It has been called a realignment rather than a restructure. There is now a review of all science within DIPNR being conducted by the World Wildlife Fund. So following that, we may have a new name in the new year. However, here's an update on what's been happening in CNR.

Monika Muschal, Meredith Royal, Nirvana Searle and **Bruce Chessman** are all out in the field at the moment collecting the final lot of data trying is currently finalising the low flows project. This project is evaluating potential indicators for unregulated river water sharing plans. Other planned field work in the near future includes sampling small catchments in the Richmond area to trial an ecological decision support protocol and more work out near Bourke to test aquatic health indicators in the Darling River and tribs. **Ivor Growns** is planning to start experimental work looking at the effects of water extraction on aquatic systems and is looking for a good site to conduct the work. Favourable attributes of the chosen site will include - near a pub, 5 minutes from work, friendly landowners, no vandals, low variability in the biota and pretty scenery. **Michael Healey** is still working on developing condition assessment techniques for different wetland types in the Richmond Clarence and Port Stephens, but spends a lot of his time working on GIS procedures for Water Sharing Plans, in conjunction with the North Coast Region.

Doug Westhorpe's is still trying to catch a flood to measure dissolved organic carbon in the Namoi River. **Bronwen Jones** has just come back from Bourke with **Peter Serov** after trying to catch Murray Cod or Golden Perch to whack some electronic trackers in them. You'll have to wait until the next instalment to see if there are any fish in the Darling River. **Peter Serov** has been continuing his studies of Groundwater Dependent Ecosystems (GDE) with ongoing field work, and laboratory invertebrate identifications from a north coast alluvial aquifer; the continued development of an interactive GDE Priority Register/database which lists high conservation value GDE's across NSW; the development of a departmental GDE library; and finalising a sampling guide for stygofauna (subterranean invertebrate fauna).

Ken Harris is still coordinating projects to feed into the Department's Integrated Assessment Guidelines project. **Margaret Brock** has been exploring aquatic terrestrial boundaries by organising with Richard Hobbs an Ecological Society of Australia symposium for the 8-10 December meeting on "The ecology of salinity what do we need to know". She is pleased to report that eight of the 14 papers are aquatic and that the symposium has attracted at least 10 ASL members to Armidale for the ESA meeting. Project activities for Margaret include continuing collaboration on the joint CSIRO/DIPNR project on aquatic salinity with Daryl Nielsen from MDFRC and on the new CRCFE salinity project. By the time this is printed she will also have given talks to the NSW Royal Zoological Society symposium on Threatened Species Legislation and the Bill Williams Memorial Symposium - both on aspects of aquatic biodiversity conservation.

Ivor Growns

AQUATIC ECOSYSTEM HEALTH UNIT, NATURAL RESOURCE SCIENCES DEPARTMENT OF NATURAL RESOURCES AND MINES (NR&M)

The time has finally arrived for all of AEH to say goodbye to the Rocklea Technical Centre. The unit is busily packing boxes and adding labels to equipment for the move to the CSIRO buildings in the Long Pocket Laboratories at Indooroopilly, which will be our place of contact as of the 17th November. Several new staff members are already stationed at Indooroopilly working on the Ecological Health Monitoring Program (EHMP) being conducted in catchments of Moreton Bay and adjacent waters. These staff members include **Dave Moffatt** from Toowoomba who has been working for NR&M on freshwater fish in the south-western region, **Dean Holloway** from Griffith University and **Susan King, Toni Radcliffe** and **Sharon Marshall** from University of Queensland. The EHMP staff have already been busily field sampling 120 sites in south-east Queensland for a range of indicators used by the EHMP including fish, bugs, water quality, benthic metabolism, bioassays and algal production and will soon be into the lab to process samples. We would also like to welcome several new "Biologists in the Bush" who are starting soon at Goondiwindi and Mackay. We will introduce them in the next newsletter.

The move comes at the end of our fieldwork season. **Andrea Prior, Annette Ritchie, Diane Conrick, Kim Cheshire, Chris Thomson, Alisha Steward, Michelle Winning, Pete Negus**, several regional hydrographers and **Andrew McDougall** ("Biologist in the Bush" from Bundaberg) have completed the Ambient macroinvertebrate monitoring for sites across the state. The regions that had intensive sampling this season include the Qld sections of the Lake Eyre Basin catchments and the Wet Tropics catchments.

Further sampling for the Fitzroy ROP research project was cancelled in the light of the results obtained to date. The project was aimed at identifying relevant ecological indicators with responses to the flow strategies listed in the WAMP and then the design of a monitoring program for assessing whether the flow strategies actually work. The conclusions of the project were that no relationships between the flow management strategies and any of the ecological indices could be identified, howevern some very interesting and expected relationships were identified between landuse information and ecological indicators. The next step is to discuss what implications these results have on the implementation of environmental flows in Queensland. Preliminary discussions have included a workshop with **Barry Biggs** from NIWA (NZ) and a number of meetings with water managers in NR&M discussing the potential changes to the current process of environmental flow development in Qld.

The Condamine-Balonne project team (**Jon Marshall, Alisha Steward** and **Michelle Winning**) has started analyses using the new flow data as well as looking at the effect taxonomic resolution on the pattern analysis using macroinvertebrate data. These analyses are hoping to be finalised early in the New Year.

Glenn McGregor and **Jon** are working on publishing papers (with other CRCFE project staff) on flora and fauna biodiversity patterns in the Cooper and Warrego catchments.

A number of conferences, workshops and discussion groups have been attended by staff. **Pete Hancock, Michelle, Jon** and **Alisha** attended a conference workshop on the basics of using the R statistical package in far away Toowoomba. **Jaye Lobegeiger** attended the diatom taxonomy workshop in Adelaide. **Pete N.** attended the CRC CZ environmental flows for estuaries workshop in Hobart.

Jon is handing in his sheriff's deputy badge as the ASL Qld representative to allow someone to devote more time to the happenings of the ASL Qld including the continuation of Pub nights. The main cause is so he can concentrate on winning back the much-coveted Rocklea flume challenge trophy, so he is spending much of his spare time (early mornings) training.

Finally best wishes to Pete Hancock and Melanie who will be married on the 22nd November. They plan to honeymoon in NSW and include time at the ASL Congress at Warrnambool.

Cheers

Pete Negus

WSL CONSULTANTS PTY LTD

So what has WSL been up to? Well, I've actually had holidays but it would appear the mob here in Melbourne have been making sure there is plenty for me to do on my return.

While I was battling swarms of March Flies on the Nullabor and persistently friendly flies in central Australia, mozzies seem to be the go back here with WSL to perform monitoring of adult and larval mosquitoes in wetlands around the suburbs over the summer months. Lucky I've still got that fashionable fly net at hand! Further a-field, WSL has been commissioned to perform biomonitoring on the Goulburn and Murray Rivers, to determine effects of irrigation return channels - diatoms and macroinvertebrates being the tools of the trade for this project.

Back in the lab a new aquarium has taken pride of place but my favourites are still the frogs. Apparently you should give the eyes a break from the scope every fifteen minutes and I believe the tank is probably a ploy to stop us from straying too far at these times. Elsewhere in the lab NSW wetland samples dominate the benches at present. The voucher collection continues to grow with a number of interesting and puzzling taxa appearing, so be aware those who may be considered experts of particular groups as we will find you.

As the weather improves we are once again working on our Vitamin D deficiencies in the field. In order to guarantee our well-being the lab had a trip to the pool to do some field safety exercises. Amazing how hard it is to swim in those waders but a worthwhile experience in the frame of things and at least we entertained those actually swimming laps. So, for anyone looking for a team bonding experience, why not take your staff to drowning lessons? We all survived!

David Bryant, Cameron Amos, Chris Bloink, Dan Vertessy, Genvieve Hehir and Patrick Maiden

From

David Bryant

UNIVERSITY OF NEW ENGLAND, ECOSYSTEM MANAGEMENT

A little news here as the summer field season swings into action.

First is our delight that **Kim Jenkins** got her ARC Linkage postdoctoral position funded (with an APAI to do all the hard work). She will be tackling issues of hydrologic regime and wetland structure and function in the Macquarie Marshes, ably supported by **Darren Ryder, Richard Kingsford, Bill Johnson, Paul Wettin** and **Yoshi Kobayashi**. We are looking for a PhD candidate for the ARC Linkage project 'Setting rehabilitation targets for regulated floodplain wetlands: linking system structure and function'. The PhD project will focus on the role of microinvertebrates in wetland food webs in the Macquarie Marshes and is available from January 2004. Watch this space for more details of her plans and findings.

Darren and Andrew also got a second ARC Linkage grant for two APAIs to work with **Barb Downes** and **Jim Fear**, trying to develop an environmental monitoring program assessing effects of water extraction from the Nymboida River in northern NSW. We welcome **Emilie Warner** as one of the PhD students but we are still looking around for a second student who may be interested...so contact Andrew or Darren if that is you! We would be looking to commence work in April 2004 and the project includes assessing aspects of ecosystem function as well as the more conventional state variables of invertebrates and water quality.

Peter Rose has handed in his Honours thesis on water quality, macroinvertebrates and water plants sampled at 25 sites in the Nambucca and Bellinger Rivers in areas of different land-use. With the second year of drought, it seems that we just got a false start of recovery and things are still pretty bad. We recently got further funding to determine whether there is a recovery when the drought breaks next year...hopefully. If not, then we get three years of drought data. **Simon (Rex) Carter** is also finishing up his work on fish and invertebrate use of artificial macrophyte substrates in the Hastings River. While fish numbers were low, he found numerous invertebrates in the macrophytes and dramatic changes in community composition with the saltwater intrusion during the drought.

Several Honours students are on the cards for Darren and Andrew next year - fishways, biofilms, coastal stream invertebrates, Hunter River dynamics - but we'll fill you in with more details about those as the projects firm up. **Marcus Finn** has temporarily suspended his PhD work while he takes on a resource manager job in Bundaberg but still plans to finish up the thesis in 2004. **Peter Hancock** hopes to finish up his PhD late this year but has been having way too much fun collecting stygofauna from every bore along the eastern seaboard.

From

Andrew Boulton

THE MURRAY-DARLING FRESHWATER RESEARCH CENTRE

Goondiwindi

The Northern Laboratory has been busy settling into its new premises in Goondiwindi's main street, after an official opening at the end of August. The clearer public profile for the lab will help create a stronger community awareness of our research and knowledge-exchange activities, also boosted by our new staff:

Angelene Wright is a Research Assistant who joined us from Orange (NSW), having also worked on macroinvertebrate and WQ sampling across north Queensland with JCU's Australian Centre for Tropical Freshwater Research. 'Ang' is still wading through macroinvertebrate samples, though now from Border Rivers sites for the CRCFE 'Dryland River Refugia' project.

Next came our Senior Community Scientist, **Janey Adams**, from Adelaide (and the USA before that) where she was a self-employed consultant working largely with wine companies, on water reuse and WQ issues, and advising catchment groups on stream bank stabilisation. Before shifting to Australia, Janey completed a MSc on links between leaf litter, small snags and carbon retention in upland Virginian streams, supervised by Jack Webster. Janey is part of the CRCFE's Knowledge Exchange Team, working on a variety of issues including KE aspects of the Narran Lakes project.

Then **Melissa White** joined us from the University of Canberra where she completed Honours research on the population dynamics of turtles in the Warrego and Cooper Creek catchments. 'Mel' is working as a Research Assistant on biological aspects of the Narran Lakes project including fish and invertebrate sampling and mesocosm experiments.

Last, **Cassie James** arrived from the University of Liverpool where she had finished up as a postdoc with Prof. Brian Moss, looking at nutrient limitation of algal and macrophyte communities in British and Polish lakes. Cassie will be working on questions of macrophyte and riparian vegetation dynamics for several projects.

With the next phase of CRCFE research projects getting underway, we're now scurrying to prepare for fieldwork on the Dryland River Refugia, Narran Lakes and Alternative Methods of River health Assessment projects.

Other work has also begun on the age and growth of Murray cod in northern rivers, spurned by requests from local anglers to know how old their prized fish *was*. Media hits for this work then sparked a debate as to whether large cod should be removed from rivers by fishermen to avoid too many smaller fish being gobbled up. More like a case of inter-predator resource competition?

From

Glenn Wilson

AUSTRALIAN WATER QUALITY CENTRE, SA WATER

There has been a few changes in personnel since the last report from AWQC. **Vlad Tsymbal** left us in July to take up a position in the Department of Environment and Heritage Biological Survey and Monitoring team. A good sign that this group is starting to pay attention to animals without backbones! **Tracy Corbin** has also left us to join the EPA and add to the rather large enclave of former AWQC staff there. Meanwhile, our workload has been expanding exponentially it seems.

Paul McEvoy, **Darren Hicks** and **Chris Madden** have been cavorting across the Murray floodplain with other members of the River Murray Wetlands Baseline Survey, mostly from SKM and the Mildura NDFRC lab. The ever changing cast of this project has been proceeding down the SA part of the river and will complete the first survey in early December.

Other jobs (just to mention a few) keeping us busy are the Ambient monitoring program of the EPA, a project looking at environmental flows below reservoirs across the Mt Lofty Ranges and baseline monitoring in anticipation of the extension of supply of Murray water to the Clare Valley for vine irrigation. To help with this mountain of work, we have gained **Nathan Rhodes**, who was previously carrying out the monthly water chemistry sampling for the EPA project mentioned above. We will also have two brand new employees in starting in December, **Sally Maxwell** and **Susan Gray**, but more about them in the next newsletter!

From

Chris Madden

POSTCARD FROM TIM DOEG

And it came to pass ….. Bugs are Really Valuable at Last!

In the beginning was the word. And the word was "money". And so it came to pass that I found myself sitting in a workshop with some "experts" across the table from some economists [the collective noun for economists seems to be "a bunch", as in "a bunch of economists", for they never seem to travel alone] who were trying to work out just how much benefit a particular set of environmental flow recommendations was "worth".

Of course, getting a handle on how much the recommendations was going to cost the landholders and irrigators was fairly easy. We know how much a kilo of meat or wheat or grapes gets them. Note that this is far less than what we actually pay the vendor at our local shops, but that's because we are supporting an entire train of middle-humans. If there is a Megalitre of water less available, that means there will be a certain number of kilos of meat, wheat or grapes, which adds up to so many dollars.

What the benefit of the environmental flows would be is far more difficult to sort out. Or so I thought. How do you put a "value" on a fish species, or a bug community, or a functioning wetland. Surely, it's enough to know that they are there, and they are likely to be there in 10 years, or 50 years from now. That's a benefit.

But The Bunch wanted to put a dollar value on it so they could compare apples with apples (even though it was a million miles to the nearest fruit orchard). And they could do it!

The first bit of the workshop was a blur - *mean and standard deviation of net benefits and the benefit-cost ratios using the distribution of outcomes and Monte Carlo simulation … specifying triangular distributions … suitable benefit value estimates to transfer… the stream of costs must be converted to an equivalent (lump sum) present value using an appropriate rate of discount.*

Que? And then this little gem:

Attribute	Value estimate ($ per within catchment household)	Value estimate ($ per outside catchment household)
% increase in the length of the river with healthy native vegetation and wetlands	2.02	2.61
Increase in the number of native fish species present	2.02	2.02
Increase in the number of waterbird and other fauna species present	1.86	0.87
Increase in water quality from boatable to fishable across the whole river	47.92	30.10
Increase in water quality from fishable to swimmable across the whole river	24.73	38.74

Apparently, some other bunch of economists in NSW surveyed every single household in the state and asked them how much they would be willing to pay to get a one percent increase in the length of river with healthy native vegetation and wetlands, or to get another fish species in the river, or another waterbird, or be able to eat fish in a river where you wouldn't dare eat the fish before. And it turns out that each household (among those who replied) would cough up $2.02 to get a new fish species in any river, $1.86 to get a new waterbird species or a species of "other fauna" in their river – but they would only fork out $0.87 to get a new species in someone else's river (outside their catchment).

I'd heard of this approach, but never seen any numbers. And it sounded OK. I'd lay a tenner on the table to get a new native fish species in my local creek (I'd lay a tenner on the table to get *any* native fish species in my local creek). But I wouldn't expect everyone to do that, so maybe the average of $2.02 might just be in the right ballpark. And $1.86 or $0.87 for other faunal species seems pretty good as well.

And so the questions went round the table.

With this environmental flow recommendation, how many kilometres of river would have healthy vegetation? "Well .... Actually none ..... unless you do all sorts of fencing and revegetation along with the flows." I could see the assistant economist write down a big fat zero. The environmental flow recommendation would not have any benefit.

With this environmental flow recommendation, how many new native fish species would there be in the catchment? "Well .... Actually none ..... they are all there, but in very low numbers. The recommendation might make them more secure, less likely to go extinct ..... but no new species." I could see the assistant economist write down a big fat zero. The environmental flow recommendation would not have any benefit.

And how many wetlands. "Goody, there will be lots .... Mainly over about 3 kilometres in Reach 6". The assistant whipped out the calculator. Total river length – 200 km; current length with good wetlands – 0 km; new river length – 3 km. That's an increase from 0 to 1.5% (at $2.02 for every percent increase, that's $3.03 per household in the catchment, and let's say $3.90 for everyone else). At least it something.

According to the ABS website, there are 1,731,343 households in Victoria (the net is good for some things). Can't find the numbers in the catchment, but let's say 100,000. If only 39% of them are willing to pay, that's about 625,000 Victorian households (39,000 in the catchment) willing to pay. So the wetlands are valued at $2.5 million. Sounds a lot, but not real flash when about 80 GL of water was needed each year – maybe worth say about $80 million (there's urban value in there).

And you there – who me – how many new other species will there be. "Um ... let me see ..... brand new functioning wetlands. No idea. Could be anything." What about a guess? "OK. There's dragonflies ... lots of them .... Mayflies, only a few .... Water bugs, heaps of them ... chironomids, oh dear ..... rotifers, plankton, snails .... Let's say, probably about 5,000. And that doesn't include new species that will come into the river itself"

Silence.....

On my calculator, the little E number comes up when you try to do the sums. It's only an eight digit display. Doing it by hand comes up with a handy little benefit of the environmental flow recommendations of just a tad under $1.1 trillion. But I could be out a decimal place or two.

Suffice to say, the benefits of the bug components are not going to be costed quite like that. But it was such a good feeling to know that even economists can prove that the bugs really are the most valuable component of any ecosystem.

The one, the only, Tim Doeg

A BIT OF FUN

Dear Onmil

I'm just about to go to my first ASL conference.

What should I wear?

Sincerely

N. Idea

Dear N.

Ah, N., I predict a great future for you. What an amazing focus on what really matters!

I'm sorry to say that most limnologists, like other scientists, are not overly concerned with personal presentation. I haven't quite worked out if that's because they have higher things on their minds (it is barely possible, I suppose), if they lack taste or if they, unlike you, N., have been afraid to ask. So, although regular readers know that I am highly reluctant to give my opinions on anything, I am going to venture a few hints on dress.

First, you must decide whether you want to be fashionable or tasteful. Those of us that survived the excesses of the seventies know that these are rarely the same. Fashion currently dictates hip-clinging flared pants in an attractive shade of black or....more black, accompanied by a too small top, usually not black. Please don't take up this look if your stomach and ...err...extreme lower back is hairy and/or protrudes. Of course, if you have a totally flat stomach, apart from the fact that everyone will hate you for it, your pants will probably fall down.

If you want to show your status as an eminent (or, in the case of students, immanent) limnologist, it's better to go for tasteful.

Now, taste is a very personal thing, but there are a few simple rules.

1. Black suits are considered professional. They also, like black sediments indicating an impoverished biota*, indicate an impoverished imagination. Adding a pink top and almost matching scarf knotted around your neck (or, in the case of males, a mickey-mouse tie) does not notably personalise your look. Any city street will have black suits, wall-to-wall. And that's just the women!

2. Brown is for biofilms. If you are not part of a biofilm association, don't wear this colour. Also, contrary to popular belief, it doesn't go with blue.

3. Leave the plaid flannel shirts at home. Plaid shirts are for lumberjacks ("foresters" in Oz, "despoilers" in greenie). If these are the only shirts you possess, then wear them with something plain. Better still, buy, rent, borrow, or persuade a loved one to give you a non-plaid shirt or two....trust me, they do actually exist!

4. But don't choose Hawaiian shirts. They are only worn to attract attention, providing a less noisy alternative to banging a drum. They do not go with anything. They originated in a part of the USA.....need I say more about taste?

5. Ditto fluoro track suits.

6. Footwear is easier, there is only one golden rule - do not wear socks with sandals: Ever. Under any circumstances: #

So, armed with a few simple rules, N., you too can impress other delegates. You may even look as good as your Powerpoint presentation, if with less flashing bits.....unless your hipsters fall down. Which would likely impress the Door Prize judge!

Sincerely

Onmil

* Apart from sulphur-reducing bacteria, that is

\# This includes you, Andrew.

Note: I apologise unreservedly for the length of this advice, justified only by the importance of the subject matter.

Ask Onmil all the tricky limnological etiquette questions you really want answered!!

INFORMATION FROM AND FOR MEMBERS

Animal Ethics Infolink

The Animal Research Review Panel and NSW Agriculture's Animal Welfare Unit has launched a new website. Its aim is to assist researchers, teachers and members of Animal Ethics Committees to access information about the operation of the *Animal Research Act 1985*, *Animal Research Regulation 1995* and The Code of Practice in New South Wales.

In addition to specific information about this legislation, including relevant policies and guidelines, this site provides general information about legislation in other states and countries and links to many sites from which useful, general information promoting the humane care and use of animals for scientific purposes can be sourced.

The site is called Animal Ethics Infolink: http://www.animalethics.org.au

Recreational Fishing Grants Program 2003/04

This really applies to the Victorians amongst you (or working in Victorian waters)!

Recreational Fishing Licence (RFL) Trust Account - Recreational Fishing Grants Program 2003/04. Applications are being sought for funding under the Recreational Fishing Grant Program 2003/04.

Funding is available for the purpose of improving recreational fishing in Victoria, in four project categories including:

(a) Recreational fisheries' sustainability and habitat improvement (including fish stocking).
(b) Recreational fishing access and facilities.
(c) Recreational fisheries related education, information and training.
(d) Recreational fisheries research.

Funding under the program is available to statutory bodies, incorporated bodies and registered companies, RFL revenue is not available to fund improvements to recreational boating which would be funded from recreational vessel registration fees under the control of Marine Safety Victoria.

Applications for fish stocking projects will close on 16 January 2004. All other project applications will close on 27 February 2004. All applications will be examined by the Fisheries Revenue Allocation Committee, which will then advise me on priorities for expenditure of revenue on eligible projects.

Please direct any enquiries regarding the Grants Program to Mr Robert Krix, Executive Officer, Fisheries Revenue Allocation Committee, Phone 03 9412 5714; Fax 03 9412 5731; e-mail robert.krix@dpi.vic.gov.au

For the application forms go to www.dpi.vic.gov.au/fishing and click on the icon that is named "Your Fishing Licence Fees at Work"

Commonwealth Areas

As a result of a fundamental reform of Commonwealth environment laws in recent years, the Australian Government under the Environment Protection and Biodiversity Conservation Act 1999 now requires persons undertaking an activity that is likely to involve the killing, injuring, taking, trading, keeping or movement of a listed species in inland waters in a Commonwealth area to obtain a permit.

Commonwealth areas are lands owned or leased by the Commonwealth. For an application form, go to http://www.deh.gov.au/epbc/permits/species/standard.html

Wetlands (Australia) now registered on the DEST list of C1 journals

We have just received notification from DEST that Wetlands (Australia) is now registered on the DEST list of C1 journals.

Please consider supporting this important journal by submitting (or suggesting that students submit) papers to Wetlands (Australia). The journal >has a very wide readership amongst wetland researchers, students and managers in Australia, and has often carried papers raising the profile of local and regional issues. Papers are considered for publication if they add to the knowledge of coastal and marine ecosystems, estuarine or freshwater wetlands. Contributions concerned with general reviews, conservation issues and management strategies are also published. Contributions can be sent to Dr Neil Saintilan, Director, Centre for Environmental Restoration and Stewardship ACU, Phone (02) 9739 2874 or Fax (02) 9739 2342.

SIGNAL

Just a short note to let you know that Dr Chessman's new SIGNAL manual is available via the Monitoring River Health Initiative web site at http://www.deh.gov.au/water/rivers/nrhp/monitoring.html#pro

Bruce Gray, Assistant Director
Water Policy Section, Department of the Environment and Heritage
GPO Box 787 CANBERRA ACT 2601
Email: bruce.gray@deh.gov.au

Envirotalk

Some of you may have heard about http://www.envirotalk.com.au/forum, a new, non-profit discussion site dedicated to the Australian environment.

The site provides a great opportunity for those interested in environmental science, conservation biology, ecology, research, management, sustainability and restoration to discuss, debate, collaborate and educate online. Of particular interest is the new Aquatic Ecology and Fisheries Forum.

If you have questions, concerns, answers, information or blatant plugs regarding the ecology of freshwater ecosystems and fisheries (or any of the other forum topics for that matter), then get online and get involved.

Productivity Commission - Water rights arrangements in Australia and overseas

A report has recently been released by the Productivity Commission, "Water rights arrangements in Australia and overseas". For further information or a copy of the report please visit the commission website at: http://www.pc.gov.au/research/crp/waterrights/index.html

Riversinfo

Check out this website called riversinfo, see: http://au.riversinfo.org/

New President for the Murray-Darling Basin Commission

The Right Hon Ian Sinclair AC commenced duties as President of the Murray-Darling Basin Commission on 1 December.

Mr Sinclair has a strong rural background and had a long, distinguished parliamentary career. He replaces Dr Roy Green AO, whose term as President expired on 30 November 2003.

Mr Sinclair's appointment was announced on behalf of the members of the Murray-Darling Basin Ministerial Council by the Council Chair, the Australian Government Minister for Agriculture, Fisheries and Forestry, the Hon Warren Truss MP.

"Mr Sinclair is an outstanding candidate, with strong chairmanship skills and a capacity to successfully engage with and relate to key stakeholders in the Basin," Mr Truss said.

"He will bring valuable skills and qualities to the position, particularly in community engagement. These skills will help to guide Commission business, including progressing the First Step for the Living Murray initiative."

Mr Sinclair will be responsible for ensuring the decisions for a healthy River Murray are based upon well-informed scientific, economic and social analysis, on which the Basin community has been properly consulted. Mr Sinclair's appointment is for five years.

Thanking the outgoing President, Mr Truss said Dr Green's dedication and effort were invaluable in managing a busy, forward looking Murray Darling Basin organisation. "Dr Green helped develop the Commission as a partnership between governments and community interests. He presided over the Commission at a significant time in the history of the Murray-Darling Basin Initiative and oversaw the development of the Basin Salinity Management Strategy and the beginning of the Living Murray Initiative."

"Myth and the Murray" publication

The Institute of Public Affairs has launched its first publication from it newly formed Environment Unit entitled, 'Myth and the Murray: Measuring the Real State of the River Environment'. The Environment Unit has been established to provide market-based, science-driven solutions to environmental problems. A summary and download of this 28 page report is available from the IPA Website at http://www.ipa.org.au

Those following this issue of the latest Institute of Public Affairs report into the health of the Murray may be interested in this story from Farm Online - The Land at http://www.farmonline.com.au/index.asp Those wishing to find the "Received Evidence for Deterioration in Water Quality in the River Murray" document that is mentioned as "not been challenged" below can do so through this URL: http://www.ipa.org.au/Speechesandsubmssns/jmwaterforum2.html

2004 CRC Selection Round Announced ~ 4 December 2003

Applications contributing to industrial, commercial and economic growth will be the focus of the 2004 selection round for the Cooperative Research Centres (CRC) Programme.

Announcing the new round, Australian Government Science Minister Peter McGauran said a recent evaluation had found strong support for the CRC Programme and made recommendations to make it even more effective. "Having considered the evaluation report and advice from the CRC Committee, I have focused the Programme's objectives and selection criteria on industrial, commercial and economic growth," Mr McGauran said. "While these criteria will be at the forefront of this selection round, social and environmental outcomes also remain vital."

This ninth CRC selection round benefits from additional funding provided by the Australian Government and includes important changes in the Guidelines. "The strong involvement of industry, including small and medium enterprises, in CRCs continues to be a key requirement," Mr McGauran said. "CRCs provide an excellent opportunity to bring together researchers from traditional CRC disciplines such as the natural sciences and engineering and also from the social sciences and humanities."

Prospective applicants need to lodge a Notification of Intent by 30 January 2004. he outcome of the 2004 selection round is expected to be announced in December 2004, with successful CRCs commencing in July 2005.

Further details of the 2004 Selection Round for the CRC Programme, including the Selection Guidelines, are available at: http://www.crc.gov.au/ or by calling 02 6240 5011.

Media Release Land use mapping has Australia's catchments covered

Issued by Senator Judith Troeth, Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry AFFA03/077T - 27 November 2003

Australia's catchment managers and landholders can now tap into 'Land Use Mapping' to address natural resource management issues such as salinity and weed control, the Parliamentary Secretary for Agriculture, Fisheries and Forestry, Senator Judith Troeth, said today.

Speaking at a special briefing in Canberra to demonstrate the recently released mapping product, Senator Troeth said the Australian Government's Bureau of Rural Sciences (BRS), in collaboration with State agencies, has targeted maps of land use at the catchment scale for nearly 80 per cent of the continent. A recent Australian Government National Landcare Program funding boost for $300,000 will see this increase to 95 per cent by 2005.

Senator Troeth said that land use mapping shows exactly how our land is being used, right down to individual paddocks. It shows where crops are being grown, the location of horticulture production, where irrigation is occurring and where forests lie.

"Land use affects our water, soil, nutrients, plants and animals. Information about land use is important for developing effective solutions to Australia's most pressing natural resource management issues, such as salinity, water quality and soil erosion," the Senator said.

Farmers can use land mapping to target their environmental challenges and, with further development, the program would enable farmer to compare and contrast progress as they work towards improved natural resource management.

The Australian Government has been supporting the vision of national catchment scale land-use mapping through a range of programs including - the Natural Heritage Trust, National Action Plan for Salinity and Water Quality, the National Land and Water Resources Audit and the Murray Darling Basin Commission.

"BRS has been co-ordinating the national mapping of Australia's land use at catchment scale, because many of Australia's most pressing natural resource management problems, such as salinity, need to be tackled at the catchment level," Senator Troeth said.

"The Snowy River Shire Council asked BRS for help in mapping land use in the Snowy Catchment. This information is being used in developing plans to fight the highly damaging weed serrated tussock, and in planning to support sustainable development in the region.

"Working closely with the BRS, Snowy Shire staff and catchment group members were able to put land use mapping data, satellite imagery, and information on vegetation, climate, geology and soils onto a single CD, which can be easily obtained and used with minimal restrictions.

"The Australian Government is committed to assisting farmers and catchments to improve natural resources management through profitable and sustainable farming practices. The delivery of practical tools like the BRS Land Use Mapping products seen here today is yet another way the Government is helping farmers remain profitable, competitive and sustainable.

"The demand for land use mapping from catchment groups, local and state governments has already exceeded expectations. BRS can now use the Snowy River CD as a prototype for other regions," the Senator said. "I would encourage catchment and regional land management groups to contact BRS and take advantage of the benefits of land use mapping, with further information available at www.brs.gov.au."

From the Aquatic Ecology Group - bes-ecol-aquatic email list

"Prospects for Biodiversity" Martin Jenkins, **Science** Nov 14 2003: 1175-1177.

Today's issue of 'Science' begins a series of reports on the 'State of the Planet'. Freshwater researchers eager to justify increased primary funding for our sector might be interested in the following short synthesis from Martin Jenkins:

"Available information suggests that freshwater biodiversity has declined as a whole faster than either terrestrial or marine biodiversity over the past 30 years (Fig. 1) (16). The increasing demands that will be placed on freshwater resources in most parts of the world mean that this uneven loss of biodiversity will continue (17). Pollution, siltation, canalization, water abstraction, dam construction, overfishing, and introduced species will all play a part, although their individual impacts will vary regionally. The greatest effects will be on biodiversity in fresh waters in densely-populated parts of the tropics, particularly South and Southeast Asia, and in dryland areas, although large-scale hydroengineering projects proposed elsewhere could also have catastrophic impacts (18). Although water quality may stabilize or improve in many inland water systems in developed countries, other factors, such as introduced species, will continue to have an adverse impact on biodiversity in most areas."

Weir removal: a new option for restoring our rivers

WWF Australia and NSW Fisheries (with funding from the NSW Environmental Trust) are removing three weirs in NSW as case studies in river restoration. Weirs are a key threat to native fish populations, especially those that rely on free passage upstream to complete their breeding cycle, such as the nationally threatened Murray cod.

Weirs also have wider ecological impacts: altering the natural flows of a waterway, creating permanently flooded habitat upstream of the structure; causing increased bank erosion and reducing plant diversity. There are over 3,500 licensed barriers to fish passage in NSW alone, and at least 81 weirs have been identified as being redundant.

As part of this project, a brochure has been produced titled 'Weir removal: a new option for restoring our rivers' if you would like a copy of this brochure, please email your postal address to Marie Waschka email: mwaschka@wwf.org.au.

Ramsar listed Gwydir wetlands under threat from landclearing

Injunctive action has been taken by the Department of the Environment and Heritage under the Environment Protection and Biodiversity Conservation Act 1999 to stop further landclearing and cultivation of a wheat crop within the Ramsar listed Gwydir wetlands. The Gwydir wetlands fall across a number of privately owned properties including the property known as 'Windella' where the clearing has taken place. The landclearing event has been extensive, with 99 per cent of the Gwydir Wetlands on the Windella property affected, with only the creek bed and a portion of the banks remaining intact. However, despite the destruction, there is evidence that remediation of the site will be possible over time.

An argument from the respondent that since the land was already cleared, cultivation of a season of wheat itself would not have a significant impact on the wetland was rejected by the Court, setting an important precedent.

The Department of the Environment & Heritage have recently filed civil proceedings against the respondent (in this case the property owners and manager). For more information, please contact WWF Australia's EPBC Unit Coordinator, Lyndall Kennedy email: lkennedy@wwf.org.au or tel: 02 6257 4010.

Merri Creek Offers Shining Example

Efforts to restore Melbourne's Merri Creek highlight the potential for environmental improvement through a balance of technical, ecological and social needs. Community activities have raised environmental awareness and fostered a sense of custodianship and responsibility for the local environment. In addition, they have broadened people's perceptions of Aboriginal history as well as the utility and intrinsic value of the landscape.

As a consequence, local community groups successfully halted and re-negotiated development plans, and worked to improve habitat values for a number of fauna species. Authors Judy Bush, Barb Miles and Brian Bainbridge argue that the success of such campaigns reveals the potential power of impassioned community groups and the validity of environmental and landscape values over engineering and technical constraints. The Merri Creek example highlights the important link between biology and culture as well as the need for flexibility in implementing projects. 'Merri Creek: Managing an urban waterway for people and nature' appears in the latest edition of Ecological Management and Restoration (V4N3). Subscribe at www.blackwellpublishing.com/journals/emr/

The Ability of the Commonwealth to Protect "Heritage Rivers"

The Wentworth Group of Concerned Scientists have argued for the identification, designation and protection of Australian rivers of national importance, or "heritage rivers".

At present there is no cohesive framework amongst the States for the protection of rivers of special importance. Victoria has an established framework which is being extended (including 'natural catchments', 'heritage rivers' (both categories protected by statute) and 'representative rivers'. The Australian Capital Territory has established a number or important river reserves. Tasmania is currently developing a 'comprehensive, adequate and representative' river protection framework, including both reserves and off-reserve protection programs. Queensland and New South Wales have ongoing studies aimed at identifying rivers of special importance. South Australia, Western Australia, and the Northern Territory have conducted important regional studies, but have not attempted State overviews. State-wide inventories of river ecosystems remain incomplete in all States except Victoria and the ACT.

Information on amendments to the EPBC Act is available on the website of the Commonwealth Department of Environment and Heritage: www.ea.gov.au. The current amendments to the EPBC Act will allow the Commonwealth to list places, including rivers, under a new list called the National Heritage List. Once on this list, a river could be protected under the Commonwealth powers invoked by the Act.

This is a potentially powerful tool for the Commonwealth, and may cause concern amongst State water management agencies. It will not be in the interests of water management agencies to have Commonwealth powers superimposed over their own management programs.

As a consequence, State water agencies could enter into dialogue with the Commonwealth in this regard. It is possible that bilateral memorandums of understanding may eventuate from such discussions, and it is also possible that such MoUs will contain commitments by the States to identify and apply special protection to particularly important rivers and estuaries (wetlands, to some extent, are already covered by Ramsar agreements, and by the statutory assessment and planning provisions linked to listing in the Directory of Important Wetlands). As mentioned above, some jurisdictions, like Victoria and the ACT (and shortly Tasmania) already have such protective arrangements in place.

Such MoUs may also allow (or require) the Commonwealth to take action where required action is not being taken by the State. The recent legal action by the Commonwealth in relation to illegal landowner clearing in the Gwydir Wetlands presents an example of Commonwealth legal action in a situation where the State government (NSW) has chosen not to enforce its own protective legislation.

MDBMC to Consider New Murray River Plan

A five-year plan for the expenditure of nearly $500 million on improving the environmental condition of the Murray River has been endorsed by Federal Cabinet and was considered by the Murray Darling Basin Ministerial Council in mid-November.

The plan will allocate up to 500 gigalitres per year in additional flow to five sites along the Murray - the Barmah-Millewa Forest (near Echuca, Vic); the Gunbower and Koondrook-Pericoota Forests (near Barham, NSW/VIC Border); the Chowilla Floodplain (South Australia); the Murray Mouth, Coorong and Lower Lakes (South Australia); and the River Murray channel.

Cabinet has agreed that there will be no compulsory acquisition of water. It is expected that, following the meeting, the plan will be released for further public input and will be considered again by the Ministerial Council at its meeting in March next year.

Chief Executive of The Murray-Darling Basin Commission to Retire

The Chief Executive of the Murray-Darling Basin Commission (MDBC), Mr Don Blackmore, has announced his retirement and will stand down from his position in late March next year.

MDBC President Dr Roy Green said Mr Blackmore had made an outstanding contribution to the management of the Murray-Darling Basin for more than 20-years, 14 of which were spent at the helm of the Basin's peak natural resource management agency, the MDBC.

Dr Green said Mr Blackmore's knowledge of water issues is exceptional and recognised, nationally and internationally. His leadership of the MDBC at critical milestones has achieved great results and he is also contributing to many other natural resource management responsibilities.

Currently Deputy Chair of the Co-operative Research Centre for Plant Based Solutions to Dryland Salinity and Chairman of the Research Committee, Mr Blackmore was also a Commissioner on the World Commission for Dams, the organisation with a mandate to review development effectiveness of large dams and criteria for future investment in dams. Mr Blackmore was also Deputy Chair of the Land and Water Resources Research and Development Corporation from 1990 to 1999, became a Fellow of the Institution of Engineers Australia in 1995 and a Fellow of the Academy of Engineering and Technological Sciences in 1998. In May 2000 he was awarded the degree of Doctor of Science (honoris causa) by La Trobe University. The MDBC has now started a recruitment process for the position in order to ensure continuity of this important role.

New River Murray Water General Manager Announced

David Dreverman has been appointed the new General Manager River Murray Water - the business unit of the Murray-Darling Basin Commission which operates and manages the River Murray and Lower Darling Systems to provide the States of New South Wales, Victoria and South Australia with their shares of water under the Murray-Darling Basin Agreement and to achieve salinity mitigation.

Mr Dreverman has been Manager Assets with River Murray Water since July 2000 and has been a key member of the Commission's senior management team. MDBC Chief Executive Don Blackmore said there was a large and very competitive field of applicants for the position of General Manager, and David Dreverman is to be congratulated on achieving this appointment.

He will take over in early December 2003 following the retirement of David Dole. Mr Dole has been General Manager River Murray Water since 1995.

Mr Dole spent some 35 years in the Victorian water industry with the former State Rivers and Water Supply Commission and the Rural Water Corporation. He had state-wide responsibilities for construction and management of rural water supply, drainage and salinity mitigation works and services and river and flood plain management activities.

He has been associated with the Murray-Darling Basin Initiative for over 30 years and for 10 years was a Deputy Commissioner representing Victoria. He was also a Victorian Government appointed member on the Snowy Mountains Council. Mr Dole has a Bachelor of Engineering (Agriculture) from the University of Melbourne and is a Fellow of the Institution of Engineers, Australia. In 2003, Mr Dole was awarded the Australian Public Service Medal.

Changes to MDB Community Advisory Committee

At its Melbourne meeting on 14 November, the MDB Ministerial Council announced changes to the structure and operational arrangements of the Community Advisory Committee. The CAC advises the Council on Basin natural resource management issues from a community perspective.

The decision follows a review of the CAC and will take effect from March 2004.

The new CAC will comprise two Indigenous members, three members each from NSW, Vic, SA and Qld, one member from ACT, and five members with expertise in each of the areas of dryland farming, irrigation industry, environment, urban and local government. All members will be chosen on the basis of their skills and networks.

People with a vital interest in the well being of the Basin and its communities are being sought for CAC membership.

Key selection criteria include support from natural resource management and stakeholder networks, understanding of natural resource management and ability to communicate effectively.

Ministers agreed that across the membership there will be the following range of skills: governance, natural resource planning and management, community engagement, business, scientific expertise, social and economic expertise, conflict resolution and leadership.

CAC members will have input to policy development, providing advice to government agencies managing land and water resources, and working with the Basin's communities to achieve sustainable management of the Basin's natural resources.

For more information and application packs contact Sue Vize, Community Advisory Committee Executive Officer on (02) 6279 0116 or cac@mdbc.gov.au - applications close COB Friday 2 January.

New Environment Plan Approved for Goulburn Broken Catchment

The Australian and Victorian Governments have approved a plan for the State's Goulburn Broken catchment region paving the way for better agricultural and environmental sustainability.

The large and diverse catchment covers more than 2.4 million hectares - or 10 per cent - of Victoria and produces 11 per cent of the Murray Darling Basin's water. It is also home to significant flora and fauna, and is a key food producing area.

In a joint statement, the Victorian Minister for Environment and Water, Mr John Thwaites, said the strategy plan was developed through a comprehensive community consultation and public engagement process. "This strategy plan is aimed at making farm land more productive while, at the same time, delivering environmental outcomes."

The Australian Minister for Agriculture, Fisheries and Forestry, Mr Warren Truss said the plan - known as the Goulburn Broken Regional Catchment Strategy – was an exciting vision for the Goulburn Broken region. "Value adding through the food processing industry provides 25 per cent of the State's export earnings. Production in the 1.4 million hectare dryland area generates $1.9 billion each year,"

The Goulburn Broken Regional Catchment Strategy plan provides the framework to protect the sustainability of agricultural production worth $7.8 billion a year across the region. This framework will provide strategic guidance for the development and implementation of specific projects. Funding for these projects will be provided in a subsequent investment plan. For more information read the joint statement at http://www.affa.gov.au/ministers/truss/releases/03/03345wtj.html

2004 Engineers Australia National Salinity Prize

$30,000 reward on offer for capturing a new idea for the national salinity problem

Entries are now being called for the challenge to win the 2004 Engineers Australia National Salinity Prize of $30,000 to be awarded in May 2004. The award has the support and sponsorship of the Murray- Darling Basin Commission and the National Action Plan for Salinity and Water Quality.

The award is open to individuals, community-based groups or companies, who have already developed and implemented an innovative technology or methodology or have a working prototype to address an aspect of the current salinity problem.

Aspects include the impacts on productive farmland, river water quality, terrestrial ecosystems, cultural heritage and the built infrastructure.

Entries must have provable outcomes for widespread applications and must include an identifiable engineering component that may include good practice design and innovation.

There is one open category for all the entrants and entries close on Friday 5 March 2004.

Full details for entering the prize are available at the Engineers Australia website http://www.ieaust.org.au. Further Information: John Bright - 0407 234 490 Email: jbright@ieaust.org.au

FASTS

FASTS TO APPOINT NEW DIRECTOR (27 OCTOBER 2003)

FASTS has begun the search for a new Executive Director, following the resignation of Toss Gascoigne from the position. Mr Gascoigne will leave FASTS early in January after nearly nine years as Director.

Professor Snow Barlow, President of FASTS, paid tribute to Mr Gascoigne's work, saying that FASTS had come a long way during his time as Director.

"FASTS now has an established position as the peak council representing working scientists and technologists in Australia," he said.

"We have helped build up an important dialogue on science policy, which in the long run will have significant benefits for Australia.

"It is no coincidence that Backing Australia's Ability, the largest funding package for science in Australian history, was announced in this period."

Professor Barlow nominated a number of highlights for FASTS over the last nine years:

- The 'Science meets Parliament' Day event
- FASTS' membership of the Prime Minister's Science Council
- Strong national representation of the views of working scientists
- The publication of a comprehensive science policy document
- A near-doubling of membership
- FASTS 'occasional paper' series, highlighting areas such as the commercialisation of research
- Establishing better links with other science-based groups

"Toss Gascoigne has played an important part in all these successes, working with the strong group of honorary members of our Board and Executive," Professor Barlow said. "It's surprising the impact one individual can have, in channeling the energies of the science community."

Professor Barlow said FASTS has begun the search for another outstanding individual, and hopes to make a new appointment by the end of the year.

Mr Gascoigne is to take up a position as inaugural director of CHASS, the Council for the Humanities, Arts and Social Sciences. CHASS is being established to serve as a peak council representing the interests of this sector.

SCIENCE NEWS 4 OCTOBER 2003

FEDERATION OF AUSTRALIAN SCIENTIFIC AND TECHNOLOGICAL SOCIETIES

Science and Technology for the Social, Environmental and Economic Benefit of Australia

1. Science meets Parliament 2003 ("SmP 2003")

"Science meets Parliament" is a remarkable event which brings scientists and Parliamentarians together for intensive discussions on the national investment in science and research. Professor Chris Fell, President of FASTS, said that only five out of 226 federal Parliamentarians had a background in science. "We need to build better links between science and Parliamentarians," he said. "We have found that MPs are really interested in talking science. They want to know what science and technology can deliver, and more about the possibilities for new industries and solutions for environmental problems."

From a full list of 17 topics nominated in the national research priorities, the MPs selected the following three issues as of the greatest significant to them (full statistics on the topics are available at www.fasts.org/Fsite/News/release03/MpsVotedFor.htm):

- Water - a critical resource
- Overcoming soil loss, acidity and salinity
- Frontier technologies - new industries of the future.

SmP 2003 is the fifth annual SmP meeting, and the biggest yet. Registration numbers were noticeably higher than last year, with 25 more Parliamentarians and 40 more scientists participating than in 2002. 152 Parliamentarians accepted an invitation to talk about science, with water, soil salinity and frontier technologies topping a list of 17 discussion topics.

SmP 2003 commenced at 10 am on Monday October 13, when Science Minister Peter McGauran launched the Science meets Parliament flag on the front steps of Questacon. During the week, 80 flagpoles in Kings Avenue and Commonwealth Avenue carried the brightly coloured flags, providing a conspicuous reminder of the SmP 2003 activities to Canberra residents and parliamentary staff.

Scientists spent one day at the National Press Club to prepare for the meetings with parliamentarians. FASTS Executive Director Toss Gascoigne explained "Why we are here and what's going to happen." Kieran McLeonard of ABC Radio then chaired a discussion by a panel of scientists on their experiences in meeting Parliamentarians. Andrew Nette, NTEU commented on making the most out of meetings with MPs. Dr Thomas Barlow, adviser to Dr Brendan Nelson, and Bradley Smith, former Democrat staffer, advised the scientists on communicating effectively with MPs. The FASTS web site contains a very useful review by Gemma Allman, see www.fast.org/Fsite/SmP/GemmasAdvice.doc, on how scientists should approach their meetings with Parliamentarians on SmP Day. Gemma is a senior member of Science Minister Peter McGauran's staff.

Over lunch on Tuesday, a feisty debate occurred between Science Minister Peter McGauran and Shadow spokesperson Senator Kim Carr. A full transcript of the debate is available at www.fasts.org/Fsite/SmP/SciDebateTrans.doc

Dr Ken Baldwin, Chair FASTS' Policy Committee, and Dr David Denham, Vice-president FASTS, led discussion on "The issues of the Day". Three topics are summarised below. For the full text, see www.fasts.org/Fsite/SmP/Issuesflyerweb.doc

- In a competitive global economy driven by innovation, Australia's competitors are moving forward at an accelerating rate. To stay in the race, we need to build on the success of Backing Australia's Ability. FASTS believes Australia needs to redouble its efforts in the public investment in research.
- The level of Australian private sector R&D investment has historically under-performed by international standards. Paradoxically, the incentives Government offers the private sector to invest in R&D are lower than in the past. FASTS supports the introduction of a tapered capital gains tax rate for investment in high technology companies, reduced annually in proportion to the length of time the asset is held.
- FASTS maintains that excellence in university teaching and research is a public responsibility, and is essential to a modern economy. Unless universities are adequately funded they won't support the development of science, technology and mathematics disciplines which are the enabling disciplines for a knowledge rich, innovative economy.

Professor Snow Barlow then chaired a very stimulating discussion by CSIRO scientists Professor Mike Young and Dr John Williams of the Wentworth Group of Concerned Scientists - how it came together and why it worked. Ian McPhedran, Bureau Chief of News Limited National Bureau, delivered informed comment on the effectiveness of the Wentworth Group. See www.clw.csiro.au/new/ for these publications by the Wentworth group:

- *"Blueprint for a National Water Plan", July 2003*
- *"A New Model for Landscape Conservation in NSW", February 2003, and*
- *"Blueprint for a Living Continent", November 2002".*

Professor Chris Fell, President of FASTS, delivered a final motivating speech to the participants, before they headed up to the Members' Hall Parliament House for a Cocktail Reception hosted by Neil Andrew, Speaker of the House.

The Speaker, the President of the Senate, the Minister for Education, Science and Training, Dr Brendan Nelson, and the Minister for Science, Peter McGauran, all spoke very enthusiastically of the positive impact of the SmP event on the members of both houses of the Parliament. Many MPs circulated among the visiting scientists and reviewed common interests.

On Wednesday morning, a large group of early career scientists met young Parliamentarians Greg Hunt (Liberal) and Tanya Plibersek (Labor) over breakfast.

Appointments with MPs continued throughout the day. In addition there were several opportunities to hear the particular views of leading politicians.

At 9.15 am, Jenny Macklin, Deputy-Leader of the Opposition, reviewed Labor's response to the Nelson education reforms, and answered a wide range of questions.

At morning tea, Science Minister Peter McGauran addressed all scientists, and launched the Academy of Science review of Earth Sciences in Australia.

Professor Mike Young and Mr Dick Thompson presented a lunchtime seminar in the Parliament House Library on the topic "Water Reform: can theory be made to work?" for the Council of Australian Government's (CoAG's) National Water Initiative. This seminar is available as an MP3 file at www.aph.gov.au/library/pubs/vis/ and can also be purchased as a CD or as an audio tape (contact dpl.publications@aph.gov.au).

Many scientists took the opportunity during the day to meet Tony Brown, the head of the science section of the Parliamentary Library.

Later, in the afternoon, Ken Baldwin collected feedback on SmP 2003 to assist planning for subsequent events.

A dinner at Old Parliament House provided a further opportunity for scientists and Parliamentarians to mingle and exchange views. The dinner was addressed by John Wolpert, team leader of "the IBM Extreme Blue Innovation Lab" in Austin, and by Dr Graham McDonald from pharmaceutical company Merck, Sharp and Dohme, the U.K. subsidiary of Merck and Co. Inc.

2. New President of FASTS

Following the Annual General Meeting of FASTS, held on Thursday 16 October, Professor Snow Barlow began a two-year term as President of FASTS, succeeding Professor Chris Fell.

Professor Barlow is a plant scientist at the University of Melbourne, where he heads the School of Agriculture and Food Systems. He says Australia has been able to maintain an enviable growth rate in recent years, largely because of micro-economic reforms carried out by successive governments over the last 15 years.

"But there is not much room to make further gains through efficiencies. We have to look at different ways of maintaining growth. New growth will come from working smarter, not harder. It means fostering innovation through increasing the national investment in science and research, and making more intelligent use of our capital and labour force."

He said that one of his priorities as President of FASTS will be to change a cultural attitude to science and technology, so that budget allocations in this area are recognised as investment rather than expenditure.

Professor Barlow paid tribute to the work of his predecessor, stating "Chris Fell has made a huge contribution to public life in Australia. He played an energetic role on the Prime Minister's Science Council, and on innumerable committees and reviews across Australia. Our scientists are deeply grateful for his efforts." Professor Barlow said the work of successive Presidents of FASTS had built a vibrant and energetic organization of 60,000 scientists and technologists.

Professor Barlow's own work is in one of the hot areas of science. He investigates the potential impacts of climate change on agricultural crops, particularly in Australia's important viticulture sector. He spent his early years on the Darling River; and graduated from the University of New England with honours in Rural Science, and blues in cricket and rugby.

3. FASTS Elections, Annual General Meeting, 16 October 2003

Professor Rob Norris, Dean of Science at Monash University and Associate Professor Judy Mousley of the Faculty of Education at Deakin University were elected Vice-Presidents of FASTS. Associate Professor John O'Connor of the University of Newcastle was re-elected to the position of Secretary, and Associate Professor John Rice of Flinders University was re-elected as Treasurer.

Dr David Denham steps down after four years as Vice-President of FASTS, but remains on the Policy Committee. Chris Fell paid tribute to David's very substantial service to FASTS, noting that as a resident of Canberra, David was very frequently called upon to speak to the media on behalf of Australian scientists, which he did extremely effectively.

4. Executive Director Retires

Mr Toss Gascoigne has announced his departure from FASTS, after more than nine years at the helm of Australia's premier scientific body. New FASTS President Professor Snow Barlow has been on the Executive Committee for a high proportion of this period, including five years as Treasurer, and paid tribute to Toss Gascoigne's work, saying that FASTS had come a long way during his time as Director.

"FASTS now has an established position as the peak council representing working scientists and technologists in Australia," he said. "We have helped build up an important dialogue on science policy, which in the long run will have significant benefits for Australia. It is no coincidence that Backing Australia's Ability, the largest funding package for science in Australian history, was announced in this period."

Professor Barlow nominated a number of highlights for FASTS over the last nine years:

- The "Science meets Parliament" Day event
- FASTS' membership of the Prime Minister's Science Council
- Strong national representation of the views of working scientists
- The publication of a comprehensive science policy document
- A near-doubling of membership

- FASTS "occasional paper" series, highlighting areas such as the commercialisation of research
- Establishing better links with other science-based groups.

"Toss Gascoigne has played an important part in all these successes, working with the strong group of honorary members of our Board and Executive," Professor Barlow said. Toss Gascoigne is to take up a position as inaugural director of CHASS, the Council for the Humanities, Arts and Social Sciences. CHASS is being established to serve as a peak council representing the interests of this sector.

5. SmP in the Newspapers

The Canberra Times (Wednesday15 October) carried an extensive review of the SmP debate between Peter McGauran and Kim Carr. The same issue described the intriguing research work of SmP scientist Dr Brian Fry of the Australian Venom Research Unit in tracing the origins of snake venom back to 60 million years ago, and in applying snake venoms to medical research.

The Australian newspaper of the same date carried a story on SmP 2003, which highlighted the participation of young scientists. On Thursday 16 October, the Canberra Times published a review of SmP 2003 by PhD researcher Megan O'Mara of ANU's Department of Theoretical Physics. Megan described the briefing sessions and her two parliamentary meetings with Senator Ursula Stephens and Senator Natasha Stott-Despoja. Following these SmP discussions, Megan concluded, "The most important thing I discovered is that we are all on the same side - we're all interested in giving Australia the best possible future".

6. FASTS Policy Highlight: School Science and Mathematics Education

With the recent release of the report on science teaching and teacher education by Professor Kwong Lee Dow's Committee (Australia's Teachers: Australia's Future - Advancing Innovation, Science, Technology and Mathematics, . see www.dest.gov.au/schools/teachingreview/default.htm there is grave concern that the number of qualified science and mathematics teachers will reach unsustainably low levels. FASTS therefore recommends that the following policy from the Federation's 2002 Policy Document be adopted:

"Teachers with a science degree incur a higher HECS debt and thus have a lower take home pay than their peers in other disciplines. This is a strong disincentive for prospective teachers to undertake science and mathematics degrees.

Policy 9.2 HECS liabilities for teachers should be at the lowest rate irrespective of discipline.

Strategy 9.2.1 FASTS will seek HECS equalisation to remove the higher debt burden for teachers in science and mathematics."

Reference: www.fasts.org/Fsite/Policy/FASTS_Policy_2002_Final.pdf.

CONSCIENCE (13 NOVEMBER 2003) *

* The following article is reproduced from the conScience column in AUSTRALASIAN SCIENCE MAGAZINE November/December 2003. The conScience column is for Australians to express forthright views on national issues. Views expressed are those of the author. Contacts Snow Barlow: (0407) 251 574; (03) 8344 5007 (Melbourne University); or via Toss Gascoigne, FASTS, (02) 6257 2891; (0408) 704 442

"RECKLESS SQUANDERING OF TALENT" HURTS KNOWLEDGE ECONOMY

The government must dramatically improve career paths for young scientists says Snow Barlow, new President of the Federation of Australian Science and Technology Societies (FASTS).

Securing realistic careers for scientists after graduation is the most challenging and unaddressed issue for Australia's labour force in science, engineering and technology (SET). Currently, markets for jobs in universities and CSIRO are stagnant, forcing postdoctoral scientists into accepting a succession of contracts for only 1-2 years. Chronic uncertainty regarding employment is devastating for scientists at an age where their peers in other fields are settling down on comfortable salaries, getting married, having children and buying a house.

This situation was poignantly demonstrated at October's Science Meets Parliament Day in Canberra. Two Senators learned first-hand about this grim reality on graciously allowing two young postdoctoral scientists to use their computers to download the list of grants released that day by the Australian Research Council (ARC). The senators were shocked to find themselves thrust into a grief-counselling role with the two unsuccessful applicants. Bursting into tears in a senator's office registers somewhere between a personal setback and tragedy, but it sure makes a point to those responsible for science funding. (Only about one in five applicants to the ARC was successful).

It underlines Australia's reckless squandering of talent of those people who collectively hold the answers to our economic and environmental future. One of the tearful scientists is unable to enter the housing market because bank managers remain unconvinced by 2-year contracts. The other is looking at a new city, a new job, and possibly a right-angle change of career - out of science.

A strong corps of creative, passionate and well-trained SET people is a key pillar of "Backing Australia's Ability", the government's innovation statement in 2001. Yet, the interim report of the government's follow-up Science Mapping task force could not hide the fact that, as other OECD nations move more strongly towards knowledge economies, the impact of Australian science is declining, just when we needed a boost. We now face intense competition globally for intellectual resources in SET.

Professor Kwong Lee Dow's recent Review of Teaching and Teacher Education has highlighted a decrease in students selecting a second science subject at high school, as well as an acknowledged shortage of teachers with science degrees. While Education Minister Dr Brendan Nelson's higher education reforms attempt to redress the shortage of teachers through special incentives, they do not address the effect of higher HECS fees on science teachers who will earn exactly the same as their colleagues of similar age and experience who teach other disciplines. The Nelson reforms also present dilemmas for university science faculties. In the past decade more expensive science courses have fared poorly in increasingly cash-strapped universities, where Vice-Chancellors have often preferred the more popular and lucrative business courses. The ability to increase income through raising HECS will help to lift the quality of science education, but higher HECS debts will deter students from enrolling in science.

The government's Federation Fellowships were launched to attract our best scientists home, but has evolved into a program seeking to stem the flow of our talent out of Australia as well. This year, the scheme did not even fill its quota of 25 fellowships. Further, some of the eight overseas scientists offered fellowships are having reservations about accepting them. The nation needs a dramatic review of its education development and retention of SET personnel if we are to become competitive in the knowledge economy. This must be a key component of the next phase of Backing Australia's Ability. The provision of career paths for highly trained postdoctoral scientists in whom the nation has invested heavily, requires urgent attention. Otherwise, they may be lost to science at great personal cost to themselves and the nation.

Professor Snow Barlow is Head of the School of Agriculture & Food Systems in the University of Melbourne.

CAUTIOUS RESPONSE TO PROPOSED ARC CHANGES (22 NOVEMBER 2003)

Australia's peak Council for scientists and technologists has responded cautiously to proposals to change the way research funding is handled in Australia.

Education Minister Brendan Nelson Minister flagged possible changes to the processes of the Australian Research Council (ARC). The proposal includes replacing the present expert advisory committees with a 'college of experts'.

The Minister has also suggested that there should be 'broad community representation on the new body that will be assessing future grant proposals'.

His proposals were contained in a media release issued on 21 November. See: http://www.dest.gov.au/Ministers/Media/Nelson/2003/11/n533211103.asp

Professor Snow Barlow, President of FASTS, said scientists can see advantages in using a multi-disciplinary panel to choose projects for funding.

"Many advances come from multi-disciplinary approaches, and may for instance involve chemistry and biology working together to solve a problem," he said. "But we would be concerned if people without the necessary technical knowledge were involved in a panel to choose which science projects should be funded."

He said that Australia has a world-beating system of peer review, and underlined the importance of encouraging excellence across a broad base from mathematics to humanities. "FASTS is warmly supportive of involving the broad community in Australia's science programs," he said.

"The Australian public should be involved in selecting our national research priorities, and needs to be confident in the broad directions of scientific research. But we are puzzled about the role non-experts might play in choosing between often highly technical science proposals."

Professor Barlow said he would be writing to the Minister to seek clarification about the suggestion.

For interview: Professor Snow Barlow ph (03) 5833 9255; 0407 251 574, For information: Toss Gascoigne 0408 704 442

MAPPING TASKFORCE MEDIA RELEASE (26 NOVEMBER 2003)

The Mapping Taskforce and science education.

The Mapping Taskforce is set to hand down its report later this week, as one of a series of government reports into science and research.

But Australia's peak council for working scientists believes the Taskforce will have failed unless it addresses pervasive problems in the science education sector. Professor Snow Barlow, President of FASTS, said the science education system had been labouring for some years. FASTS (the Federation of Australian Scientific and Technological Societies) represents 65,000 scientists and technologists.

"Australia is experiencing declining enrolments in the basic sciences and an aging teaching profession," Professor Barlow said. "The problem lies primarily in Chemistry, Physics and Mathematics.

"These are the building blocks of all science, and are fundamental to the creation of new industries and advances in health and environment."

The Mapping Taskforce was established following the Prime Minister's CEDA speech in November 2002. Among the issues it was directed to address were the development and retention of relevant skills for science, innovation and enterprise.

The Taskforce report, along with other studies, is expected to lead to a new Innovation Statement, son of 'Backing Australia's Ability'.

Despite their importance, the enabling sciences face a pervasive set of problems:

- declining enrolments at all levels of education
- an aging teaching population
- deteriorating staff student ratios
- a high proportion of biology teachers by international standards.

These problems were documented in "Australia's Teachers: Australia's Future - Advancing Innovation, Science, Technology and Mathematics", issued early in November. The report will be presented to the Prime Ministers Science, Engineering and Innovation Council this week.

The recently released "Science in Decline" report of the Australian Council of Science Deans adds further strength to FASTS' call for urgent action.

"Our plans for a knowledge-based Australian economy are based on a science-smart, adaptive workforce. Unless Australia addresses these issues, we will have stumbled at the first innovation hurdle," Professor Barlow said.

For interview: Professor Snow Barlow ph (03) 5833 9255; 0407 251 574

Assoc Professor John O'Connor ph 0402 839 978

FORTHCOMING CONFERENCES/WORKSHOPS

OVERSEAS

International Conference on Water and Environment (WE-2003), to be held Regional Research Laboratory, Bhopal, India from 15 to 18 December. See website: www.rrlbpl-we2003.com for more information.

Lak International Training Course in Tropical Freshwater Zooplankton to be held at Christ College, Irinjalakuda, Kerala, India from 20 December to 5 January 2004. See website: http://www.geocities.com/klri98/ for more information.

2004

Southern Connections 2004, to be held at the University of Cape Town, Cape Town, South Africa from 19 to 23 January. Website: http://www.uct.ac.za/conferences/sc2004 or Email: sc2004@botzoo.uct.ac.za for further information.

7th INTECOL International Wetlands Conference at Utrecht University, The Netherlands, 25 to 30 July. This Conference will be organized under the auspices of the International Association of Ecology (INTECOL). More information at http://www.bio.uu.nl/intecol/

29th International Association of Theoretical and Applied Limnology (SIL) will be held at the Helsinki University Lahti Research and Training Centre, slightly north of Helsinki on 8 to 14 August. An extensive itinerary is being organized in this limnological mecca. Website: www.palmenia.helsinki.fi/congress/SIL2004

AUSTRALIAN

2004

Sustainable Futures for Australia's Tropical Rivers ~ The role of science in managing tropical rivers, wetlands, estuaries and coastal ecosystems, will be held at the Charles Darwin University from 1 to 3 February. For further information contact Conference Logistics at: conference@conlog.com.au

Course on Mollusca, to be held at the University of Wollongong from 2 to 13 February. A comprehensive course on the biology of molluscs, comprising lectures, laboratories and field studies and covers all groups of molluscs. Details can be found at http://www.uow.edu.au/science/biol/molluscs/

15th MDFRC and CRCFE Taxonomy and Ecology Workshop, to be held at the Lake Hume Resort, Albury on 10 and 11 February. Further information from John Hawking John.Hawking@csiro.au

11th Australian and New Zealand Geomorphology Group Inc. conference will be held at Mt Buffalo Chalet, Mt Buffalo in Victoria from 15 to 20 February. Circulars providing more details about the conference are available from the ANZGG website: http://www.anzgg.org. The conference organisers can be contacted by email at: enquiries@anzgg.org.

9th Murray-Darling Basin Groundwater Workshop, to be held in Bendigo from 17 to 19 February. Further information please email info@tpes.com.au

Diatom Identification Course, to be held at the University of Adelaide from 17 to 20 February. This four day course is designed for ecologists, palaeoecologists and archaeologists. It provides a thorough grounding in diatom taxonomy, analysis and its applications. The course assumes no prior knowledge of diatoms and consists of lectures and practical classes. Contact Dr Jennie Fluin on [jennie.fluin@adelaide.edu.au] who shall forward on a course outline and registration form.

Recent Techniques in Restoration of Mangroves and Saltmarsh, to be held at the Bicentennial Park Visitors Centre, Sydney Olympic Park on 20 and 21 February. Further information please email wetworkshop@sopa.nsw.gov.au

Australian Water Summit 2004 *Integrating regional and urban water management strategies for efficient and sustainable outcomes* will be held from 25 to 27 February at the Carlton Crest Hotel, Melbourne. For more information visit http://www.iir.com.au/infrastructure

The 21st Commonwealth Agricultural Conference 'The Power of Water' will be the theme of the 21st Commonwealth Agricultural Conference taking place in Albury, from 24 to 27 March. Prime Minister, John Howard, will deliver the welcome address. Experts on water management and related issues will deliver papers on subjects such as managing the world's finite resources; the water balance - effective farming versus sustainability; water rights - current situation and options for the future. There will also be a contribution from a youth panel. www.commagshow.org/conference/details.html

7th Biennial Conference of the Irrigation Association of Australia, to be held in Adelaide from 11 to 13 May. For more information contact the conference organisers by fax 02 8234 1231 or email irrigation@etf.com.au

International Commission on Irrigation and Drainage (ICID) 2nd Asian Regional Conference, to be held at Moama (NSW) from 14 to 17 March. The theme of the conference is *Irrigation in a Total Catchment Context, Sharing the River.* For further information see www.icid2004.com

UNEP GPA (=Global Plan of Action for protection of the environment from land-based activities) H_2O conference, 11 to 14 May in Cairns. More info at: http://www.hilltops2oceans.org

Joint Estuarine and Coastal Sciences Association (ECSA) and Estuarine Research Federation (ERF) International Conference, to be held at Southern Cross University from 20 to 25 June. The Conference Theme is "Response of tropical, temperate and polar estuaries to natural and anthropogenic changes". Visit the conference website at www.scu.edu.au/ecsa37erf2004conference

5th Australian Algal Workshop will be held at Central Queensland University, Rockhampton, Queensland from 24 to 26 July. For details please contact Dr Larelle Fabbro (l.fabbro@cqu.edu.au) or Heather Smyth (h.smyth@cqu.edu.au).

Fifth International Symposium on Large Branchiopods (ILBS5) will be held at Toodyay, near Perth, 16 to 20 August. The convenor is Dr Brenton Knott. For information see http://www.zoology.uwa.edu.au/ILBS5 and for answers to specific questions contact ILBS5@cyllene.uwa.edu.au

2004 Australian Society for Fish Biology Workshop and Conference (ASFB2004) will take the form of a **National Symposium on Ecosystem Research and Management of Fisheries** (Adelaide, from 19 to 21 September), followed by the **ASFB Annual Conference** (Glenelg, from 22 to 24 September). Contact the Symposium and Conference Secretariat for further information [carolyn.anderson@cmmg.com.au]

4th International Symposium on Extant and Fossil Charophytes, to be held at Robertson (NSW) from 25 to 27 September. Check the Symposium website at: www.uow.edu.au/science/geosciences/conferences/irgc04

1st National Salinity Engineering Conference, to be 9 to 12 November at Burswood International Resort, Perth, WA. This will be the first national conference specifically convened to focus on engineering solutions to both dryland and irrigation induced salinity. Further information visit: http://www.congresswest.com.au/salinity2004/

ASL VOLUNTEERS

The following members have volunteered to speak as experts on behalf of the ASL.

If you wish to be included on the list or amend your contact details, please contact:

Dr Richard Marchant (ASL Secretary)
Email: rmarch@museum.vic.gov.au

Prof Angela Arthington:
in stream flows, ecology of exotic fishes, conservation of rare fishes.
Centre for Riverine Landscapes, Griffith University, Natham Qld. 4111.
Phone (07) 3875 7403, Fax (07) 3875 7615, email: a.arthington@mailbox.gu.edu.au

A/Prof Paul Boon:
bacteriological issues, wetlands.
Environmental Management, Victoria University of Tech., PO Box 14428 MMC, Vic. 3000.
Phone (03) 9365 2214, Fax (03) 9365 2465, email: paul.boon@vu.edu.au

Dr Andrew Boulton:
intermittent streams, hyporheic zones, Flinders Ranges.
Department of Ecosystem Management, University of New England, Armidale, NSW 2351.
Phone (02) 6773 3760, Fax (02) 6773 2769, email: aboulton@metz.une.edu.au

Dr Margaret Brock:
temporary wetlands, aquatic plants.
Centre for Natural Resources, DIPNR, PO Box U245, UNE, Armidale, NSW 2351.
Phone (02) 6773 5268, Fax (02) 6773 5288, email: mbrock@dlwc.nsw.gov.au

Prof. Stuart Bunn:
stream ecology, ecology of riparian zones, biomonitoring.
Centre for Riverine Landscapes, Griffith University, Nathan, Qld. 4111.
Phone (07) 3875 7407, Fax (07) 3875 7615, email: S.Bunn@mailbox.gu.edu.au

A/Prof. Jenny Davis:
wetland and stream ecology, ecology of central Australian waterbodies.
School of Environmental Sciences, Murdoch University, Murdoch WA 6150.
Phone (08) 9360 2939, Fax (08) 9310 4997, email: davis@essun1.murdoch.edu.au

Dr Michael Douglas:
tropical freshwater ecology, intermittent streams, tropical floodplains.
School of Biological and Environmental Sciences, Northern Territory University, Darwin, NT 0909.
Phone (08) 8946 7261, Fax (08) 8946 6847, email: michael.douglas@ntu.edu.au

Dr Tim Entwisle:
taxonomy and ecology of freshwater macroalgae.
Director Plant Sciences, Royal Botanic Gardens Sydney, Mrs Macquaries Road, Sydney NSW 2000.
Phone (02) 9231 8113, Fax (02) 9251 4403, email: tim.entwisle@rbgsyd.nsw.gov.au

Dr Max Finlayson:
wetlands, Ramsar convention.
Supervising Scientist Group, ERISS, Locked Bag 2, Jabiru, NT 0886.
Phone (08) 8979 9756, Fax (08) 8979 2449, email: maxf@eriss.erin.gov.au

Dr Mike Grace:
nutrient cycling and biogeochemical processes.
CRC for Freshwater Ecology/Water Studies Centre, Chemistry Department, PO Box 18, Monash University, Clayton Vic. 3800.
Phone (03) 9905 4078, Fax (03) 9905 4196, email: Michael.R.Grace@sci.monash.edu.au

Dr Tom Grant:
platypus biology.
Biological Science, University of NSW, PO Box 502, Cronulla NSW 2230.
Phone (02) 9527 2862, Fax (02) 9527 2862, email: t.grant@unsw.edu.au

A/Prof Margaret Greenway:
Constructed wetlands, Melaleuca wetlands, biogeochemical processes.
School of Environmental Engineering, Faculty of Environmental Engineering, Griffith University Nathan Qld 4111.
Phone (07) 3875 7486, Fax (07) 3875 7404, email: m.greenway@mailbox.gu.edu.au

Dr Mark Harvey:
watermites.
Department of Terrestrial Invertebrates, Western Australian Museum, Francis Street, Perth WA 6000.
Phone (08) 9427 2737, Fax (08) 9427 2882, email: mark.harvey@museum.wa.gov.au

Mr Kent Hortle:
impact of mining, impact of development in SE Asia and PNG on rivers.
EMA Pty Ltd, 11 Gallus Close, Vermont Vic. 3133.
Phone and Fax: (03) 9873 5887, email: kent_hortle@bigpond.com

A/Prof Pierre Horwitz:
conservation of freshwater invertebrates.
Centre for Ecosystem Management, Edith Cowan University, Joondalup Drive, Joondalup WA 6027.
Phone (08) 9400 5558, Fax (08) 9400 5070, email: p.horwitz@cowan.edu.au

Dr Paul Humphries:
fish ecology, in-stream flows.
CRC for Freshwater Ecology, MDFRC, PO Box 921, Albury NSW 2640.
Phone (02) 6058 2317, Fax (02) 6043 1626, email: Paul.Humphries@csiro.au

Prof. Gary Jones:
cyanobacterial blooms.
CRC for Freshwater Ecology, Building 15, University of Canberra ACT 2601.
Phone (02) 6201 5168, Fax (02) 6201 5038 email: gjones@enterprise.canberra.edu.au

Prof. P. Sam Lake:
stream ecology, conservation of freshwater biota.
Department of Biological Sciences, PO Box 18, Monash University, Clayton Vic. 3800.
Phone (03) 9905 5653, Fax (03) 9905 5613, email: sam.lake@sci.monash.edu.au

Dr Vladmir Matveev:
plankton food webs, biomanipulation.
CSIRO Land and Water, 80 Meiers Road, Indooroopilly Qld 4068.
Phone (07) 3214 2755, Fax (07) 3214 2881, email: Vladimir.Matveev@.csiro.au

Dr Kerri Muller:
constructed wetlands, wetlands of the lower Murray.
River Murray Catchment Water Management Board, 1 Colman Terrace, Strathalbyn SA 5255.
Phone (08) 8536 8125, Fax (08) 8536 8126, email: kerri_muller@triplei.net.au

Dr Richard Pearson:
tropical freshwater ecology.
School of Tropical Biology, James Cook University, Townsville Qld. 4811.
Phone (07) 4781 5466, Fax: (07) 4781 5511, email: richard.pearson@jcu.edu.au

Dr Winston Ponder:
taxonomy, biogeography and biology of freshwater mollusca.
Invertebrate Zoology, Australian Museum, 6 College Street, Sydney NSW 2010.
Phone (02) 9320 6120, Fax (02) 9320 6050, email: winstonp@amsg.austmus.gov.au

Dr Jim Puckridge:
ecology of arid zone rivers, ecology of freshwater fish.
Department of Environmental Biology, University of Adelaide, Adelaide SA 5005.
Phone (08) 8303 5689, Fax (08) 8303 4364, email: jim.puckridge@adelaide.edu.au

Dr Melody Serena:
platypus ecology and conservation.
Australian Platypus Conservancy, PO Box 84, Whittlesea Vic. 3757.
Phone (03) 9716 1626, Fax (03) 9716 1664, email: platypus@vicnet.net.au

Dr Russ Shiel:
planktonic and littoral microfauna, billabong ecology.
Visiting Research Fellow, School of Earth and Environmental Sciences, University of Adelaide SA 5005.
Phone (08) 8303 5294, Fax (08) 8303 6222, email: russell.shiel@adelaide.edu.au

Dr Brian Timms:
lake geomorphology, coastal dune lakes, arid zone wetlands.
Department of Environmental and Life Sciences, University of Newcastle, Callaghan NSW 2308.
Phone (02) 4921 5080, Fax (02) 4921 5877, email: ggbvt@cc.newcastle.edu.au

Dr Lloyd Townley:
groundwater-surface water interaction.
Townley & Associates Pty Ltd, PO Box 425, Claremont WA 6910.
Phone (08) 9389 6377, Fax (08) 9389 6477, email: LTownley@Townley.com.au

Prof Keith F. Walker:
Murray-Darling basin rivers.
School of Earth and Environmental Sciences, University of Adelaide, Adelaide SA 5005.
Phone (08) 8303 5595, Fax: (08) 8303 4364, email: keith.walker@adelaide.edu.au

ASL MEMBERSHIP FORM

Fill out the form below and send onto the Treasurer/Membership Officer (address below), or alternatively go to the ASL website (http://www.asl.org.au/asl_member.htm), follow the link to 'Membership application via the web'. Fill in the details on the form, including credit card details, and submit. ASL is not registered for GST, therefore ASL does not charge GST.

MEMBERSHIP FORM

Surname:.....

Given Name: .....

Title: .....

Department: .....

Organisation: .....

Address: .....

.....

.....

Postcode: .....

Telephone: .....Fax: .....

Email:.....

Qualifications:.....

Membership: Member: ( ), Student Member: ( ), 10 Year Member: ( )

Limnological interests: .....

Student declaration:

I am a full time student at.....

Signed .....

Student status confirmed by Supervisor.....

Signed ..... Date.....

Australian Society for Limnology Inc, ABN 54 606 483 226

Membership Rates from 1 July 2003 are:

Member:	$ 50.00
Student Member:	$ 25.00
Institutional Members	$ 55.00
Ten Year Member:	$450.00

Method of Payment : Cheque ( ) Money Order ( ) Credit Card ( )

Please Debit my:

Bankcard ( ) Visa card ( ) MasterCard ( )

Card number _____ _____ _____ _____

Amount $..... Expiry Date .....

Name of card holder .....

Signature .....

Please Return to:

Margaret Hart
Treasurer/Membership Officer
PO Box 605
Mulgrave VIC 3170

Mobile 0419 506 254

ELECTRONIC NEWSLETTER APPLICATION FORM

If you are a member of the ASL and want to receive your newsletter electronically, then please fill in the form below. Members who do not want to receive an electronic version, and would rather still receive the paper version will continue to do so, but you are encouraged to also fill in and send the form below (we do not have plans to phase out the paper version).

I am a member of the ASL and my name is:.....

My email address is: .....

I would like to receive the ASL newsletter emailed in

- Rich Text Format (.rtf)[1] - Word compatible
- In Portable Document Format (.pdf)[2] - Adobe Acrobat compatible
- In another format (please state which other format you would like to receive the ASL newsletter in).

.....

[1] Rich Text Format (.rtf) is a format that can be opened in any word processor, although slight variations in layout may occur in different programs.

[2] Portable Document Format (.pdf) is a format that looks and prints exactly as the publisher intended. It can be opened using Adobe Acrobat viewer which is free and can be downloaded from their website.

Please Return to:

Margaret Hart
Treasurer/Membership Officer
PO Box 605
Mulgrave VIC 3170

Mobile 0419 506 254

REGIONAL EXECUTIVE MEMBERS 2003-2004

NSW
Dr Ivor Growns, Aquatic Ecologist, Department of Land and Water Conservation, PO Box U245 University of New England, Armidale NSW 2351
Phone (02) 6773 5282, Fax (02) 6773 5288, Email: Ivor.Growns@dipnr.nsw.gov.au

Qld
Fiona McKenzie-Smith, Centre for Riverine Landscapes, Faculty of Environmental Sciences, Griffith University, Nathan QLD 4111
Phone (07) 3875 6703, Fax (07) 3875 7615, Email: F.Mckenzie-Smith@griffith.edu.au

SA
Paul McEvoy, Australian Water Quality Centre, SA Water, Private Mail Bag 3, Salisbury SA 5108
Phone (08) 8259 0336, Fax (08) 8259 0228, Email: Paul.McEvoy@sawater.com.au

WA
Suzi Wild, Aquatic Ecosystems Research, School of Environmental Science, Murdoch University, South Street, Murdoch WA 6150
Phone (08) 9360 292408, Fax (08) 93104 99708, Email: swild@essun1.murdoch.edu.au

NT
Naomi Rea, Faculty Indigenous Research and Education, NT University, Darwin NT 0909
Phone (08) 8946 6570, Fax (08) 8946 6345, Email: naomi.rea@ntu.edu.au

VIC
Barbara Downes, School of Anthropology, Geography and Environmental Studies, The University of Melbourne, Parkville VIC 3010
Phone (03) 8344 6781, Fax (03) 8344 4972, Email: barbarad@unimelb.edu.au

Tas
Danielle Warfe, Water Resources Division, Department of Primary Industries, Water and Environment, PO Box 44, Hobart TAS 7001
Phone (03) 6233 3128, Fax (03) 6233 6881, Email: Danielle.Warfe@dpiwe.tas.gov.au

ACT
Frederick Bouckaert, Murray Darling Basin Commission, GPO Box 409, Canberra ACT 2601
Phone (02) 6279 0184, Fax: (02) 6248 8053, Email: Frederick.Bouckaert@mdbc.gov.au

Webmaster
Simon Josey
Phone (02) 6270 7665, Fax (02) 6270 7696, Email: webmaster@asl.org.au or simon.josey@actew.com.au

Media Liaison
Tim Doeg, 77 Union Street, Northcote VIC 3070
Phone (03) 9481 8130, Fax (03) 9481 8130, Email: crowdoeg@mail.mpx.com.au

If undelivered please return to:

Australian Society for Limnology
PO Box 605
MULGRAVE VIC 3170

SURFACE MAIL

POSTAGE PAID AUSTRALIA

Dr R. Marchant
Invertebrate Survey
Museum of Victoria
GPO Box 666E
Melbourne
VIC 3001

Print Post Approved
PP 381667/00125

Have you changed address?

MRS/DR/MR/PROF/MS/OTHER:.....
FIRST NAME:.....
SURNAME:.....
POSITION:.....
COMPANY:.....
NEW ADDRESS:.....
SUBURB:.....STATE:..... P/CODE:.....
PHONE: WORK ( )..... FAX ( ).....
EMAIL: .....

PLEASE POST TO THE ADDRESS ABOVE